

# Govt to unveil Rs110bn farm package in budget

## AVN Report

**ISLAMABAD** - With the next general elections in mind, the PTI government will introduce an agriculture reform package worth Rs110 billion in the upcoming budget, besides increasing lending by almost 80 per cent to Rs2.7 trillion to substantially enhance crops' output and farmers income within three years. Flanked by Information Minister Fawad Chaudhry, Chairman of the Prime Minister's Task Force on Agriculture, Jamshed Iqbal Cheema said that the Rs110bn package would be implemented at a press conference three years and would be financed by the Centre and the provinces on a 50:50 pro-rata basis. The federal government alone

would be allocating roughly Rs25-30bn in the coming budget for the first year, Mr Cheema said, adding that the exact amount would be announced once relevant approvals are secured. He said he had presented the plan to the prime minister, who first approved it and appointed him as his special assistant (SAPM) on food security. Mr Cheema said the package would have about four key elements, including an Rs40bn programme to be implemented in three years to import semen for administration to animals through its provision to farmers free of cost or at a notional cost for enhancing the productivity of livestock. The provinces will bear the 50pc cost of the project. The second element is an Rs40bn



programme to provide Rs1,000 per bag of nitrogenous and phosphoric fertilisers to the extent of about 40 million bags. Half of the funding will be shared by the provinces, chiefly by Punjab and Sindh. This will cover three major crops wheat, rice and maize. The third aspect is about the Rs30bn three-year package for increasing the number of crops from the current 1.5 per year to about 2.5 per year by increasing the share of three crops with three

month maturity period, including moong, potatoes and beans, and enhancing the share of fruits and vegetables. In addition, agriculture credit would be increased from the current year's Rs1.5tr to Rs2.7tr over the next two years. The credit stood at about Rs900bn two years ago. The combination of these programmes is being considered the key initiatives for reducing poverty and increasing the income

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## PPA blames disease for surging chicken prices

### AVN Report

**LAHORE** - The Pakistan Poultry Association (PPA) has declared the Ranikhet disease as a major reason for the surging price of chicken meat.



PPA (North Region) Chairperson Raja Atiqur Rehman Abbasi said that the rate of poultry had been steadily rising for some time now. "There is no intervention by

the government or association to help curb the disease. In the current situation, a large number of chickens fall prey to the disease of Ranikhet on poultry farms." About 50% of poultry deaths were due to this disease alone and poultry farmers had been forced to shut down after losses, he added. The PPA chairperson further said that the price of poultry had also gone up since no relief was given by government to poultry farmers.

**Continued on Page 16**

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# Pakistan establishes meat export zone for China

**ISLAMABAD** - Pakistan has established a meat export zone in Bahawalpur Division to produce world standard quality meat for supply to world markets, with special focus on China.

"In order to exploit the huge potential of meat exports to Chinese market, the Livestock and Dairy Development Department of Punjab has established a Foot and Mouth Disease (FMD) free zone in Bahawalpur Division," a senior official in the Ministry of National Food Security and Research said. The zone would help the country to fulfill the international requirements for penetrating global markets, besides taking maximum advantages of agriculture cooperation under China-Pakistan Economic Corridor (CPEC) project.

He said that in this regard an updated technical matrix on establishment of FMD free zones proposed by



Livestock and Dairy Development Department, Punjab had also been shared with the Chinese side.

The team of Chinese experts was also invited to visit the facility, he said adding that it was expected that Chinese experts would soon visit for inspection to start meat export to that country.

Pakistan had expressed its interest to the Chinese side for export of boneless meat to China, which was considered free from Foot and Mouth Disease (FMD),

he added.

In this regard, he said visit of the Chinese inspector and experts was also expected to observe state of the art meat processing facilities in the country. Beside this, he said that 18 projects worth around Rs 83 billion had been identified in agriculture sector under the multi-billion Dollar China-Pakistan Economic Corridor (CPEC) Project, with an aim to exploit its true potential and modernize it for the

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## Collusion between poultry feed firms led to egg, chicken price hike: CCP inquiry

**AVN Report**

**ISLAMABAD** - The Competition Commission of Pakistan (CCP) recently disclosed that 19 poultry feed companies were involved in price coordination, which led to repeated increases in chicken and eggs prices.

The commission took suo moto notice of the concerns and complaints received through the PM Citizens Portal and the CCP's online complaint management system, alleging that some of the

leading mills collusively raised poultry feed prices. The complainants also included poultry farmers as the costly feed prices hit their businesses.

The CCP inquiry revealed that between December 2018 and December 2020, the feed mills conspired to raise the poultry feed prices by Rs825 per 50kg bag, which made the feed 32pc costlier for the poultry farmers.

WhatsApp group messages show companies increased rates from December 2018 onwards despite bumper maize crop.

The CCP inquiry team also took support from the Pakistan Bureau of Statistics (PBS) data for September 2020, which showed an increase in the chicken prices by 18.31pc and eggs by 5.2pc. The rise in these prices coincided with an increase in feed prices by almost Rs100 per bag. In October 2020, after another price increase by poultry feed mills by Rs125

on layer and Rs175 on broiler feed, chicken prices rose by 26.62pc and eggs by 23.81pc as compared to

the previous month.

In November 2020, poultry feed prices rose again by Rs150 per bag. The prices of chicken and eggs rose by 20.76pc and 5.23pc, respectively, in that month.

In December 2020, another price increase in poultry feed by Rs250 per bag caused prices of chicken and eggs to rise by 3.21percent and 14.08pc, respectively.

In February 2021, the CCP raided two major poultry feed producers and impounded crucial evidence pointing

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## Saudi rice charity stirs controversy

**AVN Report**

**ISLAMABAD** -

Saudi rice charity for Pakistan following Prime Minister Imran Khan's visit to the kingdom set off a



new controversy as the distribution started recently. King Salman Humanitarian Aid and Relief Centre, a Saudi aid agency, announced a couple of days back that it would provide 440 tonnes (19,032 bags) of rice under its Zakat al Fitr project for distribution Punjab and Khyber Pakhtunkhwa provinces.

The aid is distributed through the provincial governments among 114,192 recipients in nine districts Lahore, Faisalabad, Sahiwal and Khanewal districts in Punjab, and Lakki Marwat, Tank, Bajaur, Lower Dir and Dera Ismail Khan districts in Khyber Pakhtunkhwa. The announcement of the charity consignment that immediately followed Mr Khan's trip caused it to be linked to the visit. People, therefore, saw it as an outcome of what the government has been dubbing a highly successful visit.

In a statement, Pakistan Peoples Party (PPP) chairman Bilawal Bhutto-Zardari said PM Khan achieved nothing except 19,000 bags of rice in charity from the Kingdom of Saudi Arabia in the form of Fitr and Zakat.

'The price of rice bags got in charity is comparatively lesser than the expenses incurred on tour to the kingdom by Imran Khan along with a couple of dozen of friends and ministers,' he added.

'Imran Khan became the prime minister after 22 years of struggle just to get rice sacks for an atomic power country?' the PPP chairman asked.

Others on Twitter lashed out at the government for getting charity from Saudi Arabia.

Prime minister's special assistant Tahir Ashrafi said the charity was not new as the poor in Pakistan had been receiving it in the past.

However, he added, this time, the Saudis, instead of giving it to individuals and groups, was distributing it in collaboration with the government.

He explained that the decision for this year's distribution had been taken at least a month ago. He recalled that the same aid agency had a few weeks back sent supplies for COVID-19, but no one had then criticised it.

Mr Ashrafi said the critics were 'a disappointed lot'.

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# The ‘third wave’ of COVID has proved to be more fatal; Lt Col Retd Dr Hammad Ahmed Hashmi

by Dr Muattar Hanif



**L**t Col Retd Dr Hammad Ahmed Hashmi is a Veterinarian who graduated in 1989 from the College of Veterinary Sciences, Lahore (now UVAS). He is an MBA in HRM, MSc (Hons) and also, Chartered Member of the Institute of Logistics and Transport (UK). He is a certified Trained Expert from WHO, Harvard and British Government on COVID-19. He is also regarded as the only Vet in Pakistan who is CPD Certified Professional in Pet Nutrition and Pet Psychology.

He has special expertise in Security Working Dogs. He is also President Rotary Club Lahore South and External Examiner for the MPhil Students of University of Veterinary & Animal Sciences, Lahore.

He has previously served in the Private Sector, Livestock and Dairy Development Department of Punjab Government and then joined Pakistan Army as Captain in 1991.

In 2016 got retired from Pakistan Army as Lieutenant Colonel on completion of the service requirements. Later, he joined DHA Lahore. After serving as Additional Director Security and OIC DHA Kennel Club for almost four years, got retired on 16 March 21 from DHA Lahore.

Since 17 March, he has been serving as National Sales Manager (Companion Animals Products) in Snam Pharma, Pakistan.

Since 2003, he has also been an honorary Technical Editor of Agro Veterinary News, Pakistan.

**AVN News: You are WHO Certified Expert: Infection, Prevention and Control of COVID-19 Virus; what are the major causes and symptoms of COVID-19?**

**Dr Hammad Ahmed Hashmi:** Since the novel coronavirus infection is airborne, so it spreads through droplet means. It also spreads on contact with an infected or a carrier person. Different surfaces also carry the virus and spread it-the following cardinal signs and symptoms: sneezing, coughing, and other GIT symptoms. The most common symptoms usually are fever, dry cough and tiredness. However, the less common symptoms are aches and pains, sore throat, diarrhoea, conjunctivitis, headache, loss of taste or smell and rash on the skin, or discolouration of fingers or toes. The serious symptoms may include difficulty in breathing or shortness of breath, chest pain or pressure and loss of speech or movement.

**Are animals responsible for COVID-19 cases in people?** The first US case of an animal testing positive for COVID-19 was a tiger at a New York Zoo. Available evidence suggests that the virus is predominantly transmitted between people through respiratory droplets and close contact, but there are also examples of transmission between humans and animals. Several animals that have been in contact with infected humans, such as minks, dogs, domestic cats, lions and tigers, have tested positive for SARS-CoV-2. However, the evidence suggests

the transfer of infection is from humans or animals; it does not have a piece of strong evidence.

**Can animals be infected with SARS-CoV-2?**

There has been evidence in cats and K9 also. Still, the data available is insufficient to establish that many animal populations have been affected and can be infected. The first case in cats occurred in Brussels, whose owner had just returned from Vacations from Italy.

**“ Available evidence suggests that the virus is predominantly transmitted between people through respiratory droplets and close contact, but there are also examples of transmission between humans and animals ”**

She developed the typical gastroenteric disease and had had the virus in her vomit. Two other infected cats were detected with SARS CoV in Hong Kong. Two cats were also reported positive for SARS CoV in New York, living at different places. Both recovered. The highest number of cases has been reported in Hong Kong, with 6 cases (from the 50 Quarantined owners). A serological survey was conducted on cats in Wuhan (China), the epicentre of the CoV pandemic, between January and March 2020. Fifteen out of 102 cats tested positive by an ELISA using the receptor-binding domain (RBD) of the spike protein, and 11 of these positivities were confirmed by virus neutralization. Most of the seropositive animals had been in

close contact with SARS-CoV-2 infected humans.

To date, despite these few reports of SARS-CoV-2 infections in pets, there is some evidence that cats may be more susceptible than dogs to this highly pathogenic human CoV. SARS-CoV-2 is strictly related to SARS-CoV at genetic and biological levels, including the same viral species, Severe acute respiratory syndrome-related coronavirus (subgenus Sarbecovirus, genus Betacoronavirus) and sharing the same cellular receptor, the angiotensin-converting enzyme type 2 (ACE2). SARS-CoV-2 infected cats both through the natural and the experimental routes.

**What are the implications of animal infections with SARS-CoV-2?**

Normally the respiratory tract and the GIT are involved in an infected case. In more serious cases, the cardiovascular system is also affected badly. Symptoms of general fatigue and malaise are predominant. However, very little data is available on animals infected with SARS-CoV-2, so only preventive measures are adopted to safeguard the precious lives of animals against this menace.

**What do we know about SARS-CoV-2 and dogs?**

There have been two confirmed cases in dogs in Hong Kong (17 years Pomeranian and two years Mixed German Shephard) one Pug in North Carolina (USA), but besides having respiratory symptoms (Cough and sneeze), no other issues were noted; however, he was living in the highly

contaminated environment. Although, this was not confirmed by the US Agriculture's National Veterinary Services Laboratories. As the author of 'A Concise Guide for Dog Owners' & 'Poultry Farmers Guide,' what precautionary measures should be taken when humans suspected or confirmed to be infected with SARS-CoV-2 are in contact with animals? Especially for farmed animals and companion animals. The 'Third Wave' has proved to be more fatal, as more numbers have been seen in morbidity and

**“ On 12 April 2021, a comprehensive guideline has been issued jointly by The World Health Organization (WHO), the World Organization for Animal Health (OIE), and the United Nations Environment Program (UNEP), which call upon competent national authorities to take the following actions ”**

mortality in the human population. Except for the cases I have described above, there are fewer chances in other animals; however, there are chances for spreading the virus from the infected cats to humans and vice versa. Practising Vets are definitely at a higher risk of getting the infection from the owners or the handlers of their patients and the infected animals, especially the cats. Another issue is that the kits for detecting SARS CoV in animals

**Continued on Page 18**





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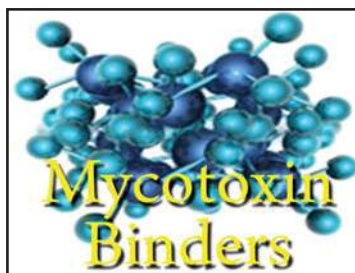
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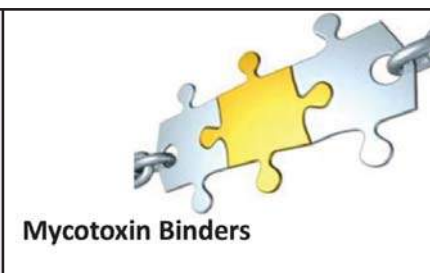
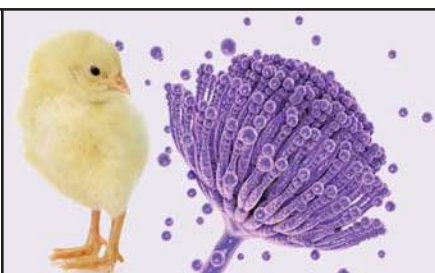


# Impact of mould inhibitors and toxin binders in poultry feed

by Dr Maria Jamil,  
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Mycotoxin Binders



Mycotoxin Binders

Commonly mycotoxins occur in grains; thus, their detrimental effects should be controlled in a favourable condition such as high humidity and temperature mycotoxins formed in high concentration. Additionally, the level of impurity through fungus directly affects mycotoxin formation. Thus it is important to control the growth of mould in the feed. Mycotoxins problem is seasonal and usually seen in winter and rainy season. In feed, mycotoxins concentration can be of great concern to birds' productivity and performance even at low levels as mycotoxins enhance flock disease and decline production. Primarily the effects of mycotoxins are on birds' immune systems. Mycotoxins lead to immunosuppression and reduce immunity against various infectious diseases or by the following vaccination. Therefore veterinarian advises the farmers to add mould inhibitor as well as toxin binders in the feed. They prevent immunosuppression, assure an effective immune response, and prevent economic losses by enhancing the growth, performance, and effective vaccine response.

## 1: Mould Inhibitors:

To avoid the fungal growth mould inhibitor added in the feed, it has no impact on the already toxin formed. Mould inhibitors only stop mould growth but not destroy them. Organic acids are more efficient as mould inhibitor. The most commonly used organic acids are citric acid, propionic acid, acetic acid, benzoic acid, and sorbic acid. Such as propionic acid as an antifungal agent added in the feed to destroy the vegetative cell, i.e. mycelium. By organic acid pH of the intestine become acidic that enhances the feed digestibility. Phosphates (alkaline polyphosphate and tetra-sodium pyrophosphate), essential oil extracts, ammonium hydroxide, silicon dioxide, potassium sorbate, and propylene glycol are also used as an antifungal agent. For poultry feed, copper sulfate is a poor mould inhibitor. At the same time, oxine copper has currently

emerged as an effective mould inhibitor. In poultry feed, oxine copper reduces the fungal load, preserves its nutritional value, and acts as a growth promoter. Mould inhibitors are mildly acidic, having pH 5. Thus pH of feed regulates the antifungal action of mould inhibitors. The pH of maize is 6.5, so any deviation in the pH of feed markedly affects the antifungal action of organic acids. Furthermore, by continuous use, mould inhibitors lose their

for tightly binding and immobilization of mycotoxins in GIT of birds and reducing their bioavailability.

## I: Zeolites:

Zeolites are silicon-containing substances. They are economical to feed additive and decline the effects of several mycotoxins. Hydrated sodium calcium aluminosilicates (HSCAS) bind AFB1 in birds GIT and decline its adsorption and toxicity. HSCA absorbs and retains the AFB1 in

mycotoxins, it added in feed in minute quantity in poultry feed and thus it not block the absorption of feed nutrients.

## IV: Mannan-oligosaccharides (MOS):

MOS is a powerful modifier of intestinal microflora, an immunity enhancer and acts as a toxin binder. It may bind to a wide range of mycotoxins such as AFB1, Ochratoxins, Fumonins, T-2, Citricin and others, and added a minute quantity in poultry feed. MOS are highly stable and unaffected by the deviation in intestinal pH and enzymes. MOS provides mannose sugar which binds to bacteria that otherwise attaches to GIT. So MOS avoiding the growth and attachment of disease-producing bacteria such as E. coli and salmonella in the GIT.

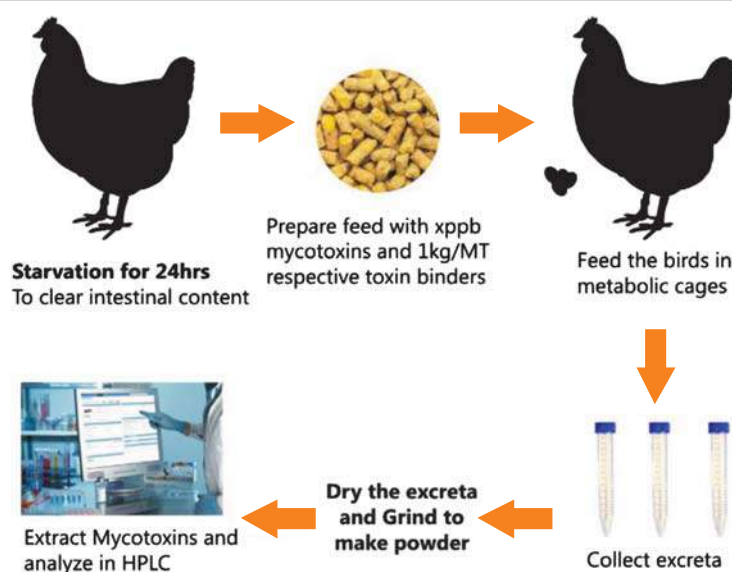
## Advantages of adding the mould inhibitors and mycotoxins binder in poultry feed:

- Enhances growth and production
- Improved FCR and weight gain
- Improved immunity and enhances resistance
- Enhances response to vaccination
- Decreased mortality

## Conclusion:

Mycotoxins are highly heated resistant and may exist in feed after destroying the fungus that produced them. The absence of one mycotoxin does not mean the absence of others. As mycotoxins commonly act in combination and their combined impact is more severe than the individual. For avoiding mould growth, sun-drying is the best method, while it does not destroy the mycotoxins. So the most effective method to tackle this problem is mould inhibitors and broad-spectrum mycotoxins binder in the feed. As mould inhibitors only stop the fungal growth and have no effect on mycotoxins that are already formed, use the compound with both in combination, i.e. mould inhibitor and mycotoxins binder.

Fig 1: Method and process for in-vivo mycotoxin excretion study



*In excreta higher mycotoxins content mean higher efficacy of mycotoxins binder to bind and absorb the mycotoxins from the body of birds*

capability to stop the growth of fungus. Mould inhibitors can also affect the nutritional value of feed, i.e. it has been found that mould inhibitors can destroy vitamin E.

## 2: Toxin Binders:

Toxin binders are the substance added in the feed in minute quantities for trapping the mycotoxins and preventing the entrance of mycotoxins in the bloodstream, where they may cause severe harm to birds. Commonly mycotoxins binder, i.e. adsorbent added in poultry feed to prevent mycotoxicosis, particularly aflatoxicosis. Mycotoxins binder is a nutritionally inert substance added to the feed

GIT and then excreted in the waste of birds. It only prevents the toxic impacts of AFB1, not any other mycotoxins.

## II: Activated Charcoal:

It is a multiple mycotoxins binder. It binds to Ochratoxin A, T-2 and commonly AFB1. While it may bind to nutrient at a high level. So it has to be used carefully.

## III: Glucans:

Currently, glucans are the most efficient toxins binders. As HSCA only binds with AFB1 while glucans bind to a wide range of mycotoxins. It may successfully bind with T-2, fusariotoxins and aflatoxins. As glucans have a high affinity to bind with several



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سو سینئر، بیگ اور سٹیفلیٹ انفرادی طور پر شرکت کرنے  
والے رجسٹرڈ افراد کو ہی دیئے جائیں گے۔

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

☆ پولٹری انڈسٹری اور دیگر شعبہ جات سے وابستہ ہزاروں افراد شرکت کریں گے۔

☆ 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  
ایکو پمنٹ کمپنیوں کے سیمینار کا انعقاد بھی ہوگا۔

☆ پولٹری انڈسٹری سے وابستہ افراد کیلئے اپنی مصنوعات کی تشہیر کیلئے بے شمار مواقع مثلاً سوینرز، آئی پیکیس گائیڈ، آئی پیکیس کیٹلوگ، میں اشتہار لگوانے کی سہولت  
جس کی پبلیکیشن 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۔

☆ فارمز 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۔



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# Water nutrition and quality for beef cattle

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Water is the most abundant nutrient in beef cattle, accounting for approximately 98% of all molecules in the animal (NRC, 2000). Despite this fact, it is also the most overlooked nutrient to the detriment of the performance and health of animals and the economic viability of producers. Cattle need an adequate, accessible, and regular supply of freshwater to facilitate physical and chemical processes of the body (NRC, 2000). For example, water is needed to produce saliva, which helps break down and lubricate feed to pass through the digestive system easily. Furthermore, it helps lubricate joints, cushion the nervous system, transport sound, and is necessary for vision. Water is also necessary for chemical processes, the least of which is for metabolism and energy production. From a chemical standpoint, water is necessary for regulating body temperature and all aspects of growth and reproduction. Therefore, inadequate water intake can limit growth and production, translating to narrower profit margins for producers. That is why it is important to understand factors that influence water nutrition and quality for beef cattle.

**Water requirements and intake**  
Assessing beef cattle water requirements is challenging because the amounts can change based on multiple factors. Table 1 highlights three factors: ambient temperature, stage of production, and body weight. Regarding temperature, beef cattle water requirements can double when comparing cool (40°F) temperatures with warmer (90°F) temperatures. Lactating cows have higher water requirements than animals in other production stages because milk is approximately 90% water. Similarly, feeder cattle require more water than cattle on pasture because of their accelerated growth on high-energy feeds. Finally, water requirements increase as weight increases. Additional factors that influence water requirements and intake include humidity, age, breed, diet, feed intake, body weight gain, level of activity, topography and salt intake (NRC, 2000).

The total daily water intake of animals does not come only from volunteer water intake from a drinking source. Moisture from feedstuffs, such as forages and concentrate, also contributes to the water requirements of beef cattle.

Table 1: approximate total daily water requirements (gallons) of beef cattle

Hardness	Calcium plus Magnesium, mg/L	Grains per Gallon (gpg)
Soft	0-75	0 to 4.4
Moderately Hard	75-150	4.4 to 8.8
Hard	150-300	8.8 to 17.5
Very Hard	>300	>17.5

1) Water Quality: Beef cattle need unrestricted access to good quality water, which fluctuates depending on water management and by



season. A clean water source can save producers money by decreasing the incidence of illness. In contrast, poor water quality may save time and management and reduce herd health and performance. There are several water quality parameters that one can assess to determine water quality for the herd. These include:

2) Hardness: Water hardness refers to the amount of naturally occurring positive ions (cations) in the water. Water is labelled as "hard" because it does not lather easily with soap. The cations commonly associated with hardness include calcium, strontium, iron, and magnesium. These minerals accumulate in water as it travels through soil and rock formations in the groundwater source. On the other hand, water low in these cations is classified as soft because it lathers easily with soap. It originates in shallow soils where water is not as exposed to limestone and mineral formations. Water palatability or safety are not influenced by water hardness. However, it can cause problems with water delivery equipment. Hard water tends to build upscale-carbonates of cations- that can change flow rate and create pressure loss. It can also become encrusted on water system valves and components, which can ruin a water system. The degree of water hardness is shown in (Table 2).

Table 2: degree of water hardness

Animals	Weight	40°F	50°F	60°F	70°F	80°F	90°F
Growing Heifers, Steers, Bulls	400	4.0	4.3	5.0	5.8	6.7	9.5
	600	5.3	5.8	6.6	7.8	8.9	12.7
	800	6.3	6.8	7.9	9.2	20.6	15.0
Finishing Cattle	600	6.0	6.5	7.4	8.7	10.0	14.3
	800	7.3	7.9	9.1	10.7	12.3	17.4
	1000	8.7	9.4	10.8	12.6	14.5	20.6
Wintering Beef Cows	900	6.7	7.2	8.3	9.7		
	1100	6.0	6.5	7.4	8.7		
Lactating Cows	900+	11.4	12.6	14.5	16.9	17.9	18.2
Mature Bulls	1,400	8.0	8.6	9.9	11.7	13.4	19.0
	1,600+	8.7	9.4	10.8	12.6	14.5	20.6

3) pH: The pH is a measure of the acidity or alkalinity in the water. A neutral pH has a value of 7. Any pH value greater than seven is alkaline, whereas a pH value less than seven is acidic. The acceptable pH range for water consumed by beef cattle is between 6.0 and 8.5. Water consumption at pH values outside of the acceptable range may reduce growth and productivity. For instance, excessive alkaline waters can cause a laxative effect and disrupt normal digestive activity, whereas, acidic waters may induce acidosis and reduce daily feed intake.

4) Salinity: Salinity refers to the amount of salts contained in water. Similar to other water quality parameters, salinity levels exceeding a healthy range can reduce feed intake and weight gains. Therefore, it is important to know what levels are healthy for beef cattle (Table 3).

Table 3: total dissolvable salts in water for beef cattle

Quality	Total Dissolved Solids (ppm)
Excellent	0 to 1,000
Good	1,00 to 2,000
Fair	2,000 to 4,000
Poor	4,000 to 6,000
Limit	10,000

Salinity is commonly measured by either total dissolvable salts (TDS) or total soluble salts (TSS) - both of which can be expressed as parts per million or electrical conductivity (EC). It is recommended that beef cattle consume water containing less than either 3,000 ppm TDS or TSS, or an EC of 5,000 umhos/cm. Previous work in feedlots demonstrated that cattle exhibited a 10% reduction in weight gains and feed intake after increasing salinity to approximately 5,000 ppm. Finally, signs of salt toxicity are consistent with the signs of dehydrations, which is marked by lethargy, reduced feed intake, dry eyes and mucous membranes.

5) Sulfates: Sulfates are commonly found in forages, feeds, and water. In water, sulfates bind to minerals such as calcium, copper, selenium, sodium, magnesium, and iron and limit growth and performance. At excessive levels, the salt resulting from binding to sulfate creates a bitter and taste to water and induces a strong laxative effect that can negatively impact beef production. Additionally, excessive water concentrations of sulfates might contribute to the increased incidence of polioencephelomalacia-a neurological disorder characterized by brain lesions. The onset of this neurological disorder was observed in steers fed diets with at least 0.38% sulfur on a dry matter basis. Incidentally, sulfates consumed in the water can also inhibit beef cattle growth and performance. The maximum tolerable water sulfate level for beef cattle is less than 500 ppm for calves and 1,000 ppm for adult cattle.

6) Nitrates and Nitrites: Nitrate toxicity rarely comes solely from a water source. The highest nitrate levels in water typically occur during drought conditions when the water level in ponds decline and nitrate levels increase. The greater problem is when the total nitrate levels from feed and water intake reach toxic levels. Despite the widespread concern about nitrate, nitrites are considered the toxic form to beef cattle bot not nitrates. Nitrates from feed and water are converted to nitrites by rumen microorganisms. These compounds are then absorbed into the bloodstream where they convert hemoglobin, which readily binds oxygen, to methemoglobin. The conversion from hemoglobin to methemoglobin decreases oxygen transport and thereby induces anoxia and ultimately death.

**Conclusion:** Water is the most abundant nutrient in beef cattle, yet it is also the most overlooked nutrient. Water requirements of animals depend on a host of factors, including temperature, stage of production, and body weight. Optimal herd health and performance require a frequent supply of good-quality water to allow beef cattle production to remain profitable for producers. Producers can use parameters such as hardness, pH, salinity, sulfates, and nitrates to determine the quality of water provided to the herd.





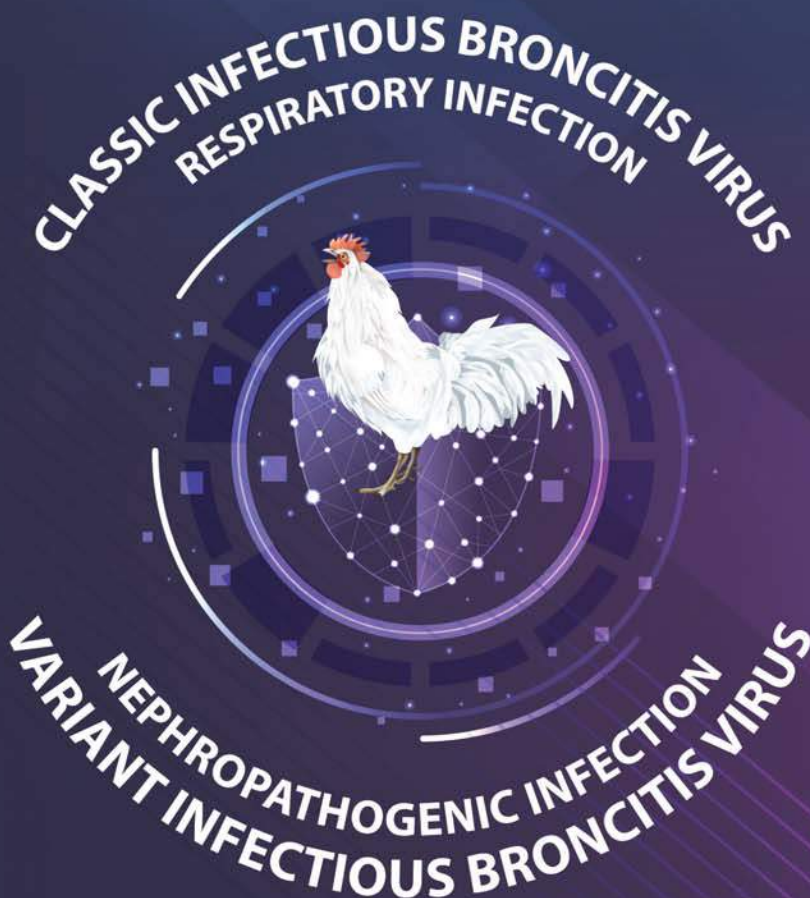
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Infectious bronchitis virus (KM91 strain)..... $\geq 106.1$  EID50  
Newcastle disease virus (LaSota strain)..... $\geq 108.4$  EID50  
Infectious bursal disease virus (CAG strain)... $\geq 106.4$  EID50



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Rabies seems to be on the rise, but the inflow of ongoing fuss due to Corona Virus, quite a few issues have gone behind the curtain, Rabies being one on the list. The current wave of dog bitten victims in Sindh continues to be serious concerns as there is a lack, if not unavailability of anti-rabies injection. During 2020, many cases of dog bite victims went into veins. In Larkana, the stronghold of PPP, a six-year-old boy, who was brutally bitten by a mob of dogs (maybe rabid) could not get anti-rabies treatment, hence was made to move to the National Institute of Child Health (NICH), where the juvenile victim was subjected to intensive care for his safe survival. On 1st March 20, another minor dog-bite victim succumbed to his injuries in Sukkur allegedly after the hospital staff failed to administer him the anti-rabies vaccine on time. The boy, identified as four-year-old Hidayatullah, was a village resident in the Saleh Pat Tehsil in Sukkur District. Earlier on 8th January 2020, a woman from rural Sindh died because of rabies after stray dogs bit her. She was a resident of Hamza Khan Rind village in the Bajara Union Council - the electoral constituency of Sindh Chief Minister Syed Murad Ali Shah. The deceased was 30 years old and mother of four, including a 40-day-old infant. Her husband told the local media that he shifted his wife from Sehwan to Hyderabad because the Sehwan hospital did not have the anti-rabies vaccine. On January 2, a teen from Shikarpur in Sindh developed full-blown rabies after a rabid dog bit him. He was taken to Jinnah Postgraduate Medical Centre (JPMC) in Karachi for treatment, but he could not survive. Rabies in Sindh has been on the rise, and there seems to be top-level ignorance at the government level. The WHO describes rabies as a neglected disease in Pakistan, although dog bites in the country are very high. Research has revealed that most of the population are unaware of rabies' risk when bitten by rabid dogs or do not seek the right treatment for its prevention. In recent days, it seems like there has been a rise in rabies in rural and urban Sindh. Almost every day, there are reports of a dog biting. The situation has become worst due to a chronic shortage of anti-rabies medicines. In Sindh alone, 69,453 dog bites were reported in the province of Sindh, as stated by the health department only in the first five months of 2019 alone. Most of the cases have emerged in the Larkana division between January

# Rabies on the road

and May; dogs bit 22,822 people. Of these, 7,678 incidents occurred in Qambar-Shahdadt, 4,381 in Kashmore, 4,364 in Shikarpur, 3,752 in Larkana city, and 2,647 Jacobabad.

The Hyderabad division toll of reported dog bite



by Prof. Dr. Abdullah G. Arij  
Chairman  
Department of Parasitology  
Sindh Agriculture University-Pakistan

The victims are strictly advised not to practice any home remedy or traditional healing except to wash the wound with clean water and soap thoroughly for fifteen to twenty minutes. Rabies is largely ignored and undermined;



cases was 21,099, of which 6,989 became the victim in Dadu. A total of 3,383 dog bite incidents occurred in Badin, 2,811 in Jamshoro, 1,984 in Tando Allahyar, 1,590 in Matiari, 1,490 in Thatta, 1,188 in Sujawal and 802 in Tando Muhammad Khan.

The situation was not better in the Shaheed Benazirabad division; 12,175 cases were reported while in Mirpur Kha's division 6,774 cases have surfaced. A total of 6,263 cases were reported in the Sukkur division. Three hundred fifteen dog bite cases surfaced only in Karachi, including 274 in Malir, 18 cases from Korangi district, 11 from Central district, ten from East district, and one case from districts West and South. This hospital data of the provincial health department is about the reported dog bite cases at government health facilities only and does not include the number of cases at private hospitals, Armed Forces institutions and teaching hospitals in megacities, which may further swell the magnitude of the problem. Again, every dog bite shall not be considered a confirmed victim of rabies because most of them escape due to timely vaccination. Only a small number may retrieve it either due to the non-availability of vaccine or less effective vaccine. Once established with its obvious symptoms, Rabies is virtually a fatal disease with no remedy anywhere in the world. There are only six known recorded cases of rabies who could escape death elsewhere in the world. There is no scientifically recorded case of a confirmed case of rabies ever in Pakistan who could be saved alive hence it is immensely important to consult immediately any medical authority in case of a dog bite, which can manage it scientifically.

Rabies is a potentially fatal viral disease that affects bats and almost all canine animals; the dog is most reported. The Disease is zoonotic and may be spread to human if bitten by an infected rabid dog through saliva. The bite needs to tear the skin for the animal or human to be infected. WHO reports that domestic dogs most commonly spread the virus to humans; about 99% of human deaths are caused by dog-bitten; however, in Sindh, most recent cases are due to the stray dog(s)? Rabies seems to be on the rise, but the inflow of ongoing fuss due

***Increased vaccination of dogs, dog bite prevention, post bite treatment, immediate and thorough wound washing with soap and water for a minimum of 15 minutes after contact with a suspect rabid animal is crucial and can save lives.***



**Anti-Snake Venom/Anti Rabies Serology Laboratory at Sakrand-Benazirabad, Sindh. Courtesy Saud**

to Corona Virus, quite a few issues have gone behind the curtain, Rabies being one on the list. The current wave of dog bitten victims in Sindh continues to be serious concerns as there is a lack, if not unavailability of anti-rabies injection. During 2020, many cases of dog bite victims went into veins. In Larkana, the stronghold of PPP, a six-year-old boy, who was brutally bitten by a mob of dogs (maybe rabid) could not get anti-rabies

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# Dog bite and its management



by Dr Abdul Mateen, Dr Sajjad Ali  
College of Veterinary and Animal Sciences, Jhang

A dog bite is a bite upon a person or other animal by a dog, especially from a rabid dog. More than one successive bite is often called a dog attack, although dog attacks can include knock-downs and scratches. Though many dog bites do not result in injury, they can result in infection, disfigurement, temporary or permanent disability, or death. Another type of dog bite is the 'soft bite' displayed by well-trained dogs, puppies, and non-aggressive play. Dog bites can occur during dogfighting, as a response to mistreatment, trained dogs acting as guard or military animals, or during a random encounter.



## Incidence of a dog bite:

- Significant dog bites affect tens of millions of people globally each year.
- It is estimated that 2% of the U.S. population, 4.5-4.7 million people, are bitten by dogs each year. Most bites occur in children.
- Globally, 60,000 people die of rabies per year.
- Significant dog bites affect tens of millions of people globally each year.
- It is estimated that 2% of the U.S. population, 4.5-4.7 million people, are bitten by dogs each year. Most bites occur in children.
- Globally, 60,000 people die of rabies per year.

## Treatment steps before seeking medical attention:

1. Wash the wound with soap and warm water.
2. Gently press a clean cloth over the wound to stop the flow of blood.
3. Apply an antibacterial ointment to the wound.
4. Cover with a sterile bandage.
5. Watch for signs of infection.
6. Seek help if you suspect infection or possible exposure to rabies or if the wound is severe.

## When to see a doctor:

Always see a doctor for a dog bite that:

- is caused by a dog with an unknown rabies vaccine history or by a dog that's acting erratically or appears to be sick
- doesn't stop bleeding
- causes intense pain
- exposes bone, tendons, or muscle
- causes loss of function, such as an inability to bend fingers
- looks red, swollen, or inflamed
- leaks pus or fluid

## Treatment of dog bite :

Following steps are taken to treat dog bite  
Ask about the dog's vaccination history:

► The first thing you should do following a dog bite is to distance yourself and the dog. That can eliminate the chances that you may be bitten again.

► Once there's no longer an immediate threat, it's important to determine if the dog has been inoculated against rabies.

• If the dog's owner is nearby, ask for the dog's vaccination history, making sure to get the owner's name, telephone number, and veterinarian's contact information. If possible, also ask to see some ID.

## Administer First Aid:

- The severity of the bite will determine the type

of first aid you administer.

- If your skin wasn't broken, wash the area with warm water and soap. You can also apply an antibacterial lotion to the area as a precaution.
- If your skin was broken, wash the area with warm soap and water and gently press on the wound to promote a small amount of bleeding. This will help flush out germs.
- If the bite is already bleeding, apply a clean cloth to the wound and gently press down to stop the flow. Follow up with an application of antibacterial lotion and cover with a sterile bandage.

## Dx and Rx of dog bite wound:

Your doctor will assess your risk of infection, check for additional injuries, and attempt to minimize scarring. Examinations following an animal bite usually involve the following:

### Inspection

- Wounds are thoroughly examined for debris. Your wound may be treated with a numbing agent before your doctor examines it.

### X-Rays

- Your doctor can order X-rays to check for bone fractures. An X-ray can also help them ensure no debris in the wound that isn't visible upon inspection. Certain types of foreign material such as dirt or grass are easy to overlook.

### Irrigation

- Your doctor will irrigate the wound to clean it properly. This is important to prevent infection. Irrigation may not always prevent infection, but it does reduce the risk. A local anaesthetic may be used to minimize pain.

### Debridement

- Animal bites can result in skin tears that can't be repaired. A procedure known as debridement may be necessary to remove dead or infected skin and tissue that can't be repaired. Debridement can sometimes be painful. You may need a local anaesthetic for this procedure.

### Closure

- Puncture wounds aren't usually closed with stitches. But some wounds must be sutured or stitched immediately after the bite.

### Wound Care

- Your doctor may recommend different methods of wound care based on the injury you sustained. Wounds that have been sutured should be kept clean and dry. Showering may be permitted, but the injury should be dried softly to avoid damaging the sutures. Wounds that aren't sutured may require daily soaking or other treatments.

- Antibiotics may be prescribed to prevent infection resulting from an animal bite. The following types of bites usually warrant antibiotics:

- cat bites



- wounds that require debriding
  - heavily contaminated wounds

- Antibiotics are usually prescribed to older adults or people who have chronic medical conditions such as diabetes.

## What are possible complications from a dog bite?

Dog bites can cause several complications.

These include

- infections
- rabies
- nerve or muscle damage

## Infection

Bacteria can live in any dog's mouth, including:

- staphylococcus
- Pasteurella
- capnocytophaga

Dogs may also carry MRSA, but there have been no current reports of Trusted Source of it being transmitted via a dog bite. These germs can cause bacterial infections if the dog bite breaks the skin.

## Rabies

Rabies is a serious viral condition that affects the central nervous system. Left untreated, it can lead to death within a few days of infection. Seek immediate medical attention if a dog has bitten you and you aren't sure of their vaccination history or know that they're not up-to-date on their rabies vaccinations.

## Tetanus

Tetanus is a bacterial disease. It's uncommon in the United States where vaccines are routinely provided to children. Adults should get a tetanus booster shot every ten years, Trusted Source.

## Scarring

If a dog bite tears the skin, it can cause scarring to occur. In many instances, the appearance of mild scarring will lessen over time.

## Death:

The number of deaths due to dog bites in the United States annually is very low. About 70 per cent of deaths related to dog bites happen to children younger than 10 years old when they occur.

## How to prevent infection:

- Dog bites can introduce dangerous bacteria into the body. This can cause serious and sometimes fatal infections to occur when left untreated.
- It's very important to wash the wound as soon as you're bitten and to use topical antibiotics, such as povidone-iodine, in and around broken skin.
- Keep the wound covered and change bandages daily.
- Keep an eye on the wound for signs of infection. Depending on the type of infection, symptoms can start appearing within 24 hours up to 14 days after being bitten.
- Infections can spread quickly throughout the body. If you notice signs of infection, see your doctor right away. You may need oral or intravenous antibiotics.
- If your doctor prescribes antibiotics for you, you'll probably take them for 1 to 2 weeks. Do not stop taking your medication even if the infection appears to subside completely.







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## Govt to unveil Rs110bn ...

*Continued from front page*

of the rural sector.

SAPM Cheema said the World Bank estimates suggested that investment in agriculture impacted poverty reduction four times greater than any other field.

Fawad Chaudhry said that about Rs1.1tr additional income had gone into the rural economy through the agriculture sector during the current year, which many people were terming inflationary factors.

Mr Cheema said Pakistan always remained engaged in subsistence agriculture throughout its history and could not venture into commercial agriculture because of old farming and eating habits and focus on a few food crops. As a result, he added that the country remained deficient in food and calorie intake, resulting in stunted human brains. He said that Pakistan would have to shift to food, feed and fibre through reforms in reverse calculation mode on the Chinese model under the package.

Mr Cheema, an agriculture practitioner, has businesses in fertilisers and pesticides and owns over 700 acres of agricultural land at home, besides related business in China. He said the plan was ready to increase food and feed production from 14 million tonnes to 70m tonnes per year.

This will also reduce poverty and provide overall support to the industry, besides stopping migration from rural areas to cities, he said, adding that companies would be encouraged through the banking sector and insurance subsidies for the creation of storages between farms and markets and moving perishable food and vegetable cultivation in northern areas instead of their transportation from southern parts.

With a shift in sowing schedules, wheat output could be doubled by increasing the cropping season to 9-10 months. This will be mostly done through preaching, guidance and supply of hybrid seed.

Mr Cheema said the export market mostly required course rice. Still, Pakistani farmers were intoxicated with Basmati rice. They would be asked to shift most of the sowing to course rice, which attracted a better price and limit Basmati rice only for local consumption. Maize output through the same line of action would be tripled from 13m tonnes to 40m tonnes. The SAPM said that cows in Australia and America produced 25 and 35 litres of milk p, respectively, compared to 4-5 litres in Pakistan, which could be increased to 15 litres per day in three years through the introduction of imported exotic semen, both for milk and meat production.

As a result, milk production will increase from about three million tonnes at present to 30m tonnes in seven years and raise farmer's income by more than Rs300bn per annum.

This programme would require an investment of Rs30bn over the next three years. The semen injection cost Rs5,000 per unit that would be provided free or at a nominal cost, but this would result in Rs50,000 worth of calf on the first day of birth. This would increase overall farmers income from Rs10tr at present to Rs18tr in seven years.

## PPA blames disease for ...

*Continued from front page*

Last year, poultry owners suffered losses due to the coronavirus situation which led to many farmers closing down their businesses.

This had led to a drop in production, he elaborated. "If broiler meat is not available in the country, mutton beef prices will rise further. At the moment, only broiler meat is controlling food crises in the country as it is the only source of protein that is available at low prices." He further said that the government should also review the demands of the poultry industry and provide relief to them.

"The Poultry Advisory Committee should be reinstated. Although the poultry rate is very high, farmers are still suffering due to mortality and feed rate."

Therefore, they should be provided loans at least mark up to cover their losses and tubewell tariff should be imposed on poultry, he stated. "Abolish import duty and tax on poultry medicines, vaccines, equipment and poultry feed components. Vaccines for Ranikhet and other diseases should be prepared in government laboratories and they should be provided at cheap prices to poultry farmers so that diseases can be controlled."

## Collusion between poultry ...

*Continued from page 04*

towards price change coordination among the feed companies. The impounded record revealed that officials of 19 feed mills were using an active WhatsApp group where one feed producer would announce its intended price increase and the rest expressing and sharing their willingness to follow suit.

Price discussions included the effective date and amount of the rise. These discussions and decisions were implemented on the ground, as evidenced by the official price lists of these companies.

The inquiry has mentioned a conversation thread from Dec 7, 2020, where the top managers of feed mills discussed price increases on the group. In the conversation, an official of a feed mill said: "Everyone would increase, for sure, but what's about the exact effective date, please".

In response, an official of another feed mill said: "Dear all owners want immediately but seem from tomorrow". Another feed mill representative replied: "Surely with effect from 07-12-2020".

Price lists show that on Dec 7 and 8, 2020, mills increased prices by Rs250 per 50 kg bag. The inquiry also found that mills carried out price changes between December 2018 and December 2020 in a coordinated manner in short intervals at least 11 times. In addition, the data revealed that not only were price revisions made on the exact dates, but the amounts of price change were also similar.

To illustrate this pattern, on Oct 10, 2020, the feed mills participating in the WhatsApp group increased prices by Rs125 per 50 kg bag for layer and Rs175 per 50 kg bag for broiler feeds, on Nov 14 and 16, 2020, by Rs150 per 50 kg bag on all feed rations and on Dec 7 and 8 2020, these mills increased prices by Rs250 per 50 kg bag on all allocations.

At the same time, the CCP inquiry noted that the critical poultry input costs show that maize, which is the primary component of feeds, constituting 55-60pc in terms of physical usage in feed, approximately 40pc of the cost. Maize witnessed a bumper crop in 2020 and was abundantly available. In the fiscal year 2019-20, maize prices fell by 7pc compared to the previous year, and in the first quarter of FY21, they were 22pc lower than 2019-20.

On the other hand, soybean meal, another critical raw material, saw higher prices. However,

the rise in input prices, which has been witnessed, cannot be used to justify increasing feed prices uniformly as each mill has a different cost structure and business model, the CCP noted.

Poultry feed mills are each other's competitors, and any discussion and coordination on prices are prohibited under Section 4 of the Competition Act, 2010.

After the release of the inquiry report, CCP will issue show-cause notices to poultry feed companies involved in the prima facie violation of Section 4 of the Competition Act.

## Rabies on the road

*Continued from page 12*

The situation was not better in the Shaheed Benazirabad division; 12,175 cases were reported while in Mirpur Kha's division 6,774 cases have surfaced. A total of 6,263 cases were reported in the Sukkur division. Three hundred fifteen dog bite cases surfaced only in Karachi, including 274 in Malir, 18 cases from Korangi district, 11 from Central district, ten from East district, and one case from districts West and South.

This hospital data of the provincial health department is about the reported dog bite cases at government health facilities only and does not include the number of cases at private hospitals, Armed Forces institutions and teaching hospitals in megacities, which may further swell the magnitude of the problem. Again, every dog bite shall not be considered a confirmed victim of rabies because most of them escape due to timely vaccination. Only a small number may retrieve it either due to the non-availability of vaccine or less effective vaccine.

Once established with its obvious symptoms, Rabies is virtually a fatal disease with no remedy anywhere in the world. There are only six known recorded cases of rabies who could escape death elsewhere in the world. There is no scientifically recorded case of a confirmed case of rabies ever in Pakistan who could be saved alive hence it is immensely important to consult immediately any medical authority in case of a dog bite, which can manage it scientifically. The victims are strictly advised not to practice any home remedy or traditional healing except to wash the wound with clean water and soap thoroughly for fifteen to twenty minutes.

Rabies is largely ignored and undermined; Rabies is a potentially fatal viral disease that affects bats and almost all canine animals; the dog is most reported. The Disease is zoonotic and may be spread to human if bitten by an infected rabid dog through saliva. The bite needs to tear the skin for the animal or human to be infected. WHO reports that domestic dogs most commonly spread the virus to humans; about 99% of human deaths are caused by dog-bitten; however, in Sindh, most recent cases are due to the stray dog(s)?





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Interview with Lt Col Dr Hammad

**Continued from page 06**  
are not readily available, confirming the positive case at hand. **Should precautionary measures be taken when visiting markets selling live animals, raw meat and animal products?**  
As we all know that COVID-19 emerged in December 2019 in Wuhan City, Hubei Province, China, in humans exposed to wildlife at the Huanan seafood wholesale market, the largest seafood market in central China. This is a typical Asian wet market, where different farm and wild animals are commonly sold, whether dead and alive. The blood and other body fluids originating from these animals represent an excellent source for the spillover of animal viruses. It is believed that SARS-CoV-2 recognizes a probable zoonotic origin yet not confirmed, since the virus likely descends from a bat betacoronavirus, strictly related to the one responsible for the 2002-2003 SARS epidemic (SARS-CoV), which was transmitted to humans directly or through previous adaptation to a not yet identified intermediate host. After this adaptation to the new host, the virus spread to the human population through human-to-human transmission, without any other animal role in the epidemiological chain. However, pets have been alternatively brought into play as a possible source of infection for humans, intermediate hosts for SARS-CoV-2 transmission to humans or hosts of animal CoVs that may cross-protect humans against the highly pathogenic CoV. **What are your recommendations for Veterinary doctors?**  
In my opinion, there are some ways. Firstly, strict adherence to SOPs is a must. Repeated hand washing and highest standards of hygiene, minimum numbers of Clients and Patients in the clinic and no laxity on taking due precautions are some

points included in COVID-19 SOPs. The use of disposable items like masks, gloves and PPE have also proved to be effective. **What can Veterinary doctors do to protect susceptible animals?**  
Isolation and strict quarantine is the first thing that can be done. The symptomatic treatment can include the use of immune boosters, potent antibiotics and antihistamines, usage of multivitamins especially containing Vit C and Zinc, steam inhalation and enforcement of strict biosecurity. **What are the Veterinary doctors' responsibilities in the event of positive animal cases?**  
In Pakistan, the kits for testing CoV are not available as of today. On the other hand, even the PCR Test in humans is not 100% confirmed, as there have been numerous FALSE POSITIVE CASES. Spot test Kits are not much reliable. Symptomatic observations are made and dealt with accordingly with appropriate treatment. **Are there any recommendations related to intra country or inter-country movement of live animals or animal products?**  
The risk of disease emergence in traditional food markets where live animals are sold for food is also relevant for other utilizations of wild animals and movement of live animals or animal products. All these uses of wild animals require an approach characterized by conservation of biodiversity, animal welfare, national and international regulations regarding threatened and endangered species. To reduce the public health risks associated with the sale of live wild animals for food in traditional food markets, WHO, OIE and UNEP recommend several actions that national governments should consider adopting urgently to make traditional markets safer and recognizing their central role in providing food and livelihoods for large populations. On 12 April 2021, a comprehensive

guideline has been issued jointly by The World Health Organization (WHO), the World Organization for Animal Health (OIE), and the United Nations Environment Program (UNEP), which call upon competent national authorities to take the following actions. Suspend the trade in live caught wild animals of mammalian species for food or breeding purposes and close sections of food markets selling live caught wild animals of mammalian species as an emergency measure unless demonstrable effective regulations and adequate risk assessment are in place. Strengthen the regulatory basis for improving standards of hygiene and sanitation in traditional food markets to reduce the risk of transmission of zoonotic diseases. During the current pandemic, additional measures for crowd control and physical distancing, hand washing and sanitizing stations, and education on respiratory hygiene should be introduced in market settings to limit the possibility of person-to-person transmission of disease. Conduct risk assessments to provide the evidence base for developing regulations to control the risks of transmission of zoonotic microorganisms from farmed wild animals and caught wild animals intended to be placed on the market for human consumption. Regulations should address the traceability of farmed wild animals to ensure that they are distinguished from caught wild animals and should include strict biosecurity measures. Ensure that food inspectors are adequately trained to ensure that businesses comply with regulations to protect consumers' health and are held accountable. In addition, competent authorities responsible for managing traditional food markets should be adequately resourced so that regulations focused on food animal production, processing and marketing are

consistently enforced. Strengthen animal health surveillance systems for zoonotic pathogens to include both domestic and wild animals. This will provide early warning for pathogen emergence and provide the evidence base for developing controls to prevent risks to human health in association with public health surveillance systems. Develop and implement food safety information campaigns for market traders, stallholders, consumers and the wide general public. These campaigns should communicate the principles of food safety and the risks of transmission of zoonotic pathogens at the human-animal interface, and the risks associated with the consumption and trade of wildlife. The campaigns should also disseminate information to all stakeholders about the importance of biodiversity and the need for any use of wildlife to be legal, sustainable, safe and responsible. The COVID-19 pandemic stems from the introduction of the novel coronavirus, SARS-CoV-2, into human populations. Although the specific mechanism of SARS-CoV-2 emergence has not been definitively identified, interactions may have occurred that allowed for cross- and perhaps multiple-species pathogen transmission at some point or over time. The World Health Organization (WHO), the traditional food market, is used throughout this document to include wet markets, informal markets and farmers' markets that sell foods of animal origin/non-animal origin/dried goods, and where live animals are sometimes housed and slaughtered on site. Food and Agriculture Organization of the United Nations (FAO), the World Organization for Animal Health (OIE) and the United Nations Environment Program (UNEP) recognize the repeated emergence of zoonotic diseases and the linkages of some of them along the value chain of the wildlife trade. It should be noted that zoonotic disease risks vary among different animal species (e.g. terrestrial versus aquatic animal species) and different farming and marketing systems. Therefore, a risk assessment is required to determine appropriate risk management strategies. Captured wild mammals are likely to carry agents of zoonotic infections that may go undetected and affect humans who are exposed to them. WHO works closely with FAO, OIE, UNEP and other international agencies to ensure that the global food system is sustainable, safe and secure and that technical support is available to strengthen national food control systems. The purpose of this document is to guide food safety and other relevant authorities to reduce the risk of transmission of COVID-19 and another zoonosis in traditional food markets.

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## Pakistan establishes meat ...

Continued from page 04

sustainable economic growth.

He further informed that agriculture development was the main component of the second-phase of CPEC and both China and Pakistan were determined to exploit this sector for mutual benefit.

About twelve short, medium and long-term projects identified by the China-Pakistan Joint Working Groups (JWG), which were related to Livestock Wing, Ministry of National Food Security and Research (MNFS&R) and Livestock and Dairy Development Department. So far two meeting of China-Pakistan JWG on Agricultural Cooperation had taken place, he said adding that first meeting of the group was held on November, 2019 and second meeting was held on April 20, 2020.

The two sides had agreed for conducting third meeting of JWG in 2021, which would be held in Beijing and open new vistas of cooperation in the field of agriculture sector development. About six projects were related to research and development to be executed by Pakistan Agricultural Research Council while one project has been identified for the establishment of Aquaculture Park in Coastal Areas of Pakistan, he added.

He further informed that Livestock Wing of the Ministry of National Food Security and Research had also provided requisite information to China for export of poultry products to China and invited Chinese technical team to visit Pakistan for inspection of poultry establishments. -Courtesy by APP

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بیماری کی شدت کی وجہ سے سانس لینا دشوار ہو جاتا ہے۔

9۔ اکثر اوقات حاملہ بیمار جانور بچہ گرا دیتا ہے۔

10۔ بخار کے 2 سے 3 دن بعد جلد لگ جاتے ہیں۔ کبھی کبھار فضلہ کے ساتھ خون بھی آتا ہے اور بدبودار ہوتا ہے۔

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## بھیڑ بکریوں میں کاٹا کی بیماری اور اُس کا علاج (PPR)

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تعارف: اللہ تعالیٰ کا لاکھ لاکھ شکر ہے کہ انسان کو اشرف المخلوقات پیدا فرمایا۔ اور ہمیں ایک مسلمان گھرانے میں پیدا کیا۔ اللہ پاک نے زمین پر موجود تمام مخلوقات کو انسان کی خدمت کے لیے پیدا فرمایا اور زمین پر اُن کے والی سبزیاں ہوں یا پھل یا پھر جانوروں سے حاصل کردہ گوشت، دودھ یا انڈے یہ سب

پیداوار کو متاثر کرنے کے ساتھ ساتھ ان سے ملنے والے دوسرے فوائد کی راہ میں بھی رکاوٹ بنتی ہیں۔ ان بیماریوں میں کاٹا خصوصی اہمیت کی حامل ہے۔ یہ بیماری وباء کی صورت میں پھیلتی ہے۔ یہ بیماری بھیڑ بکریوں کو اچانک متاثر کرتی ہے اور ان میں بڑی اموات کا باعث بنتی ہیں جس سے کسان

ہیں اور مندرجہ ذیل علامات کو دیکھ کر کاٹا بیماری کی آسانی سے پہچان کی جاسکتی ہے۔  
1- بیماری کی ابتداء تیز بخار سے ہوتی ہے اور بیمار جانور کا درجہ حرارت 106F تک پہنچ جاتا ہے۔  
2- جانور کھانا پینا چھوڑ دیتا ہے۔  
3- بخار کی وجہ سے جانور کی زبان خشک ہو

جاتی ہے اور جانور زیادہ پانی پیتا ہے۔  
4- متاثرہ جانور بقیہ ریوڑ سے الگ ہو جاتا ہے کیونکہ جانور نمایاں طور پر پرست اور نیند کی حالت میں ہو جاتا ہے۔  
5- آنکھیں سُرخ ہو جاتی ہیں اور آنکھوں اور ناک سے پانی بہنا شروع ہو جاتا ہے جو بعد میں بتدریج لیس دار اور پیپ نما مواد کی

شکل اختیار کر جاتا ہے۔  
6- منہ، مسوڑھوں، زبان اور ہونٹوں کے اندر دانے بن جاتے ہیں۔  
7- منہ سے بدبو آتی ہے اور جھاگ دار رال بہنا رہتا ہے اور ہونٹ سوج جاتے ہیں۔  
8- متاثرہ جانور تیز سانس لیتا ہے جبکہ (بقیہ صفحہ نمبر 9)



ہماری خوراک و ضروریات کا بنیادی حصہ ہیں۔ اگر جانور صحت مند ہو سکے تو ہمیں بھی گوشت، انڈے، دودھ وغیرہ صاف ستھرا اور بیماریوں سے پاک حاصل ہوں گے۔ اس لیے ضروری ہے کہ ہمیں جانوروں کی صحت و خوراک کا خصوصی خیال رکھنا چاہیے تاکہ جانور صحت مند رہیں اور ہمیں بیماریوں سے پاک خوراک ملے۔  
پاکستان ایک زرعی ملک ہے اور یہاں پر زیادہ تر لوگوں کا دار و مدار مال مویشی پر ہوتا ہے۔ مال مویشی ان کی زندگی میں اہم کردار ادا کرتے ہیں جو نہ صرف انکی خوراک کی بنیادی ضروریات پوری کرتے ہیں۔ بلکہ انکی آمدن کا اہم ذریعہ بھی ہے۔ پوری دنیا کے دیگر ممالک کی طرح پاکستان کے جانوروں کو بھی مختلف بیماریوں کا سامنا رہتا ہے۔ جو

بھائیوں کو کافی مالی نقصان ہوتا ہے۔ زیر نظر کتابچہ میں کاٹا بیماری کے بارے میں معلومات بیان کی گئی ہیں اور ہم امید کرتے ہیں کہ مویشی پال بھائی اس سے بھرپور فائدہ اٹھائیں گے اور اس اہم بیماری سے بچاؤ اور اس کے روک تھام کے طریقوں پر عمل کرتے ہوئے اپنی بھیڑ بکریوں کی حفاظت اور انکی بہتر نگہداشت و افزائش میں انشاء اللہ ضرور کامیاب ہوں گے۔

علامات: اس بیماری کی علامات جانور کے جسم میں جڑوہ داخل ہونے کے بعد 2 تا 6 دن کے اندر اندر ظاہر ہونا شروع ہو جاتی

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