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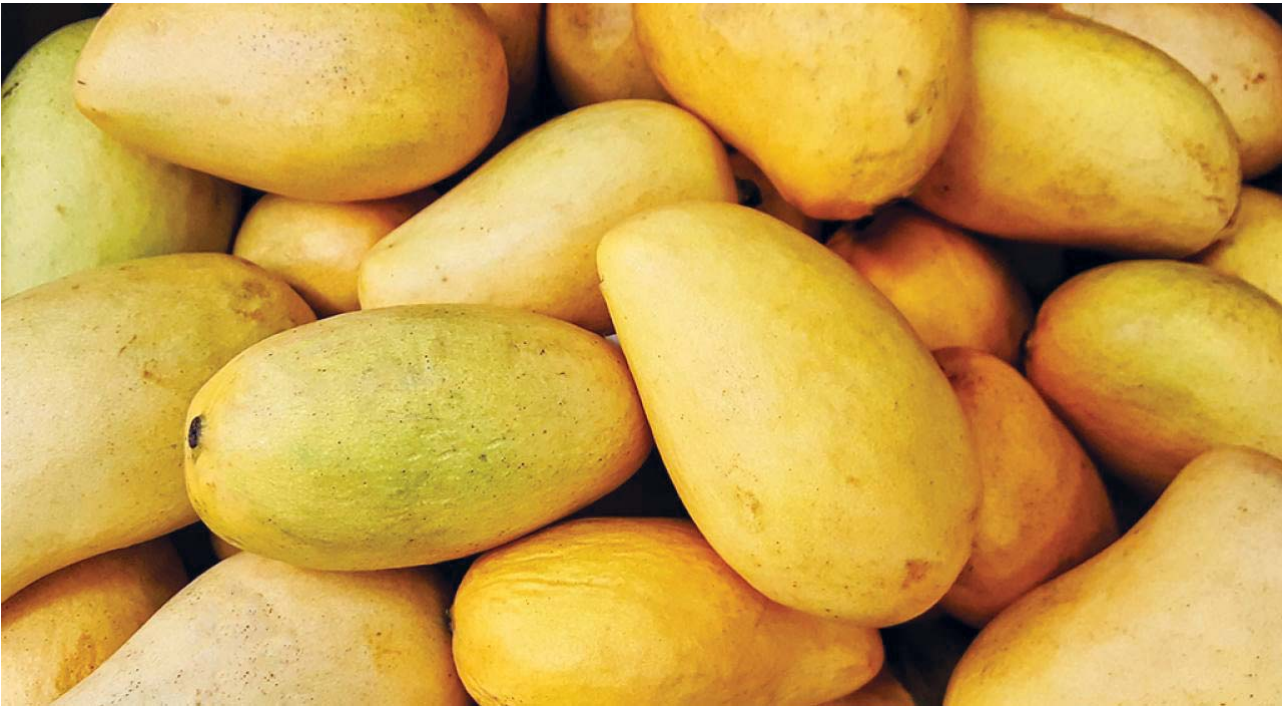
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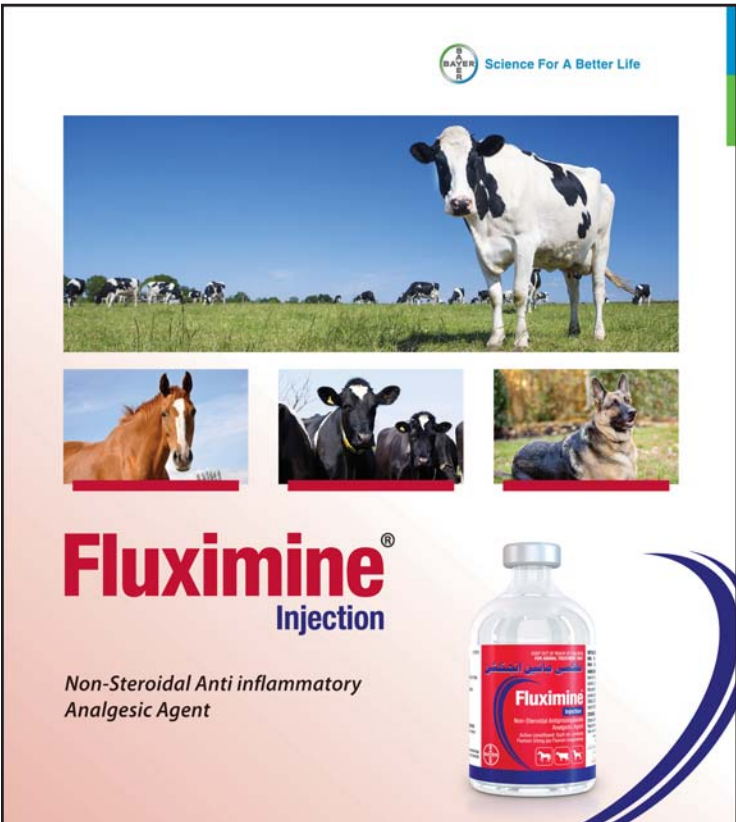


Pakistan mango production drops owing to heatwave, water shortage

AVN Report

MULTAN - According to the head of a growers' and exporters' organisation, Pakistan's mango production is likely to drop by nearly 60 per cent this year as a result of exceptionally high temperatures and water constraints. Mango output has decreased this season due to climate change and a lack of resources, such as canal closures, electrical load shedding, and diesel shortages, all of which came at a critical moment for the crop. According to Abdul Ghaffar Garewal, Director of the Mango Research Institute (MRI), severe temperature difference from March 11 to March 17, from 37 degrees centigrade to 42 degrees centigrade, compared to 34 degrees centigrade in prior years, had a bigger impact on the mango fruit. Similarly, the temperature in April also remained high compared to the ones in previous years, and it also aggravated problems for the growers. Abdul Ghaffar said that the mango production was affected by nearly 60 per cent as the flowering stage could not bear the severity of the weather. Besides climate changes, some other factors also damaged mango production. He stated that growers could not irrigate mango orchards

Continued on Page 11



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PPA Chairman assures of reducing chicken meat prices

AVN Report

LAHORE - On the instruction of Punjab Chief Minister Hamza Shahbaz, a consultative process is underway to lower the pricing of essential items, including chicken. A consultative meeting was held under the chairmanship of MPA Bilal Yasin at the chief minister's office. A delegation led by Pakistan Poultry Association (PPA) Chairman Dr Sajjad Arshad attended the meeting and assured their cooperation in reducing chicken meat prices. During the meeting, MPA Bilal Yasin vowed that all available resources will be spent to provide relief to the common man. The role of middlemen will be reduced to reduce the gap between the wholesale and retail prices, he added. Issues facing the poultry sector were also discussed during the meeting. Chairman Poultry Association informed the meeting that chicken meat prices have been declining, and they will come down further.



Continued on Page 12

Lumpy Skin Disease reaches KP

AVN Report

PESHAWAR - Following outbreaks in Sindh and Punjab provinces, the lumpy skin disease of cattle has spread to Khyber Pakhtunkhwa, with cases reported in Peshawar, Charsadda, and Dera Ismail Khan districts. According to a statement issued by the livestock farmers' welfare association, Director-General Livestock Dr Alamzeb has confirmed the emergence of the disease in the province. The association's president Mohammad Asif Awan urged the provincial chief secretary and secretary of livestock to release funds for taking preventive measures against the disease spread. He said lumpy skin disease had already infected many animals in Sindh and Punjab, and if preventive measures were not taken, the impact of the disease would be very harmful to the dairy farming community of the KP province. He also stressed the need for awareness among the livestock owners about the disease and its treatment. He also sought closure of all the entry points of the province and the establishment of veterinary control rooms.

CVAS holds Dairy Club Monthly Meeting

JHANG - College of Veterinary and Animal Sciences (CVAS) Jhang recently organised a Dairy Club Monthly Meeting to address the challenges

Club Dr Muhammad Zahid Farooq. Dr Muhammad Shahbaz, Deputy Director of Food Authority, was invited to the meeting. Farmers had also

practically all the farmers present in the meeting in a very nice and good manner. He also commented on the purity of milk and explained the methods by which a



faced by the industry. The main purpose of this meeting is to invite the dairy professionals to introduce themselves to their students and to tell them about the challenges facing the industry so that the students can know what problems they face in the dairy sector. This meeting is organised every month in the CVAS Jhang with the tireless efforts of Convener Dairy

attended the meeting. Dr Muhammad Shahbaz appreciated the efforts of Dr Muhammad Zahid Farooq and the students and encouraged them. Various lectures were arranged by the students. The students showed on the projector and explained how an ordinary farmer can increase milk production and how to make maximum profit by storing milk. The students explained

poor farmer can make milk profitable by purifying the milk and then storing it. Told the students about the packing and also told us what problems we face in the food authority. At the end of the meeting, Dr Muhammad Zahid Farooq addressed the students that we will continue to organise such monthly meetings in the future.

AsiaPak, OIG sign deal to generate animal protein in Pakistan

AVN Report

KARACHI - Optima Integration Group (OIG), headquartered in Shenzhen, and AsiaPak Investments, headquartered in Hong Kong, China, recently signed a Memorandum of Understanding (MoU) to establish an end-to-end supply chain for agricultural products, particularly animal protein products, that will be produced in Pakistan and transported to China for consumption.



According to the MoU, the two sides will complete feasibility studies in the first two months, and they will start executing the project within the first six months. The signing ceremony was witnessed by the Pakistani Minister of Board of Investments, Chaudhry Salik Hussain. He congratulated the partnership and was glad to see China's interests in Pakistan's agriculture and livestock sector, especially in the fish and seafood industry. "Food processing is one of the priority sectors of Pakistan, where the extensive and continuous focus is required, and it is closely linked with the logistics sector, which is also nominated as a priority sector for Pakistan. The validation process of such a project will enable Pakistan to be part of the global supply chain. BOI is always committed to facilitating China-Pakistan cooperation." the minister said. On occasion, Shaheryar Chishty, CEO of AsiaPak, mentioned that China imports more than \$150 billion in food annually. Only \$500 million is exported from Pakistan, and most of them are fruits and vegetables. Pak-China friendship is translating into economic benefits. The CEO added that the project objective is to increase the export of animal protein, including fish, beef and mutton, to China. "This project begins with the pilot of fish export and will expand after feasibility studies in Gwadar. Subsequently, we will expand the scope to include beef and mutton processing in our project," he noted. With a population of 1.4 billion in the growing and upgrading consumer demands, China has huge market potential, especially in the food industry. Pakistan has a long history and unique advantages. The two sides will work together to enhance B2B cooperation between private enterprises of the two countries under the second phase of CPEC to modernize Pakistan's agricultural sector.

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Animal Health Division



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Malpractice in vaccination administration is the leading cause of mortality in broiler chickens in Pakistan

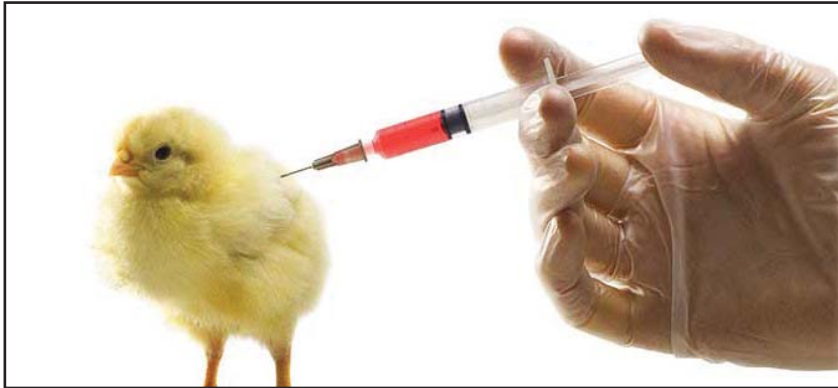
By Dr Erum Bughio
(Assistant Professor, SBBUVAS, SAKRAND)
Muhammad Ali Usama Ch &
Muneeb Gabool
(2nd Prof students, SBBUVAS)

No doubt, the Pakistan poultry industry is advancing at a swift pace, with an annual growth rate of approximately 75 per cent per annum over the last decade. Pakistan proudly enjoys the position of 11th largest poultry producer, but despite that, even though we are unable to sustain our own needs, there is ample space for further improvement. Gone are the days when farmers used to think that by sticking to the traditional method of farming, they could yield better profit.

Pakistan poultry farmers realized this fact very early as a result; they started shifting toward control houses, leaving the traditional open houses. Although they have adopted modernization in housing and feeding yet, these two alone can't

create a remarkable impact without adopting a pertinent management practice, especially in the system of vaccine administration. Proper vaccine administration results in healthy flocks leading to handsome profits. The very first wrongdoing our farmers fell prey

spraying does not result in to complete vaccination of the flock as there is no cutaneous absorption of the vaccine. This whole protocol is performed in the house, shredding the virus all around. In contrast, the proper method of doing so is that upon arrival, chicks boxes are placed in special chambers in which Air oxygen concentration is low; as a result, they open their mouth wide open as a result they are sprayed with the proper entry of vaccine via ocular and oral route resulting into proper vaccination moreover as this protocol is performed in a separate chamber this will limit the live vaccine spread to only that area where the protocol is performed. Secondly, some vaccines are administered orally, and the vaccines are added to water sources. As a result, some of the live viruses cling to the lines of automatic drinkers. Later, they act as a source of infection. So, it's encouraged to administer oral vaccines via reliable sources that can be removed after the procedure is performed. Finally, curbing the menace of malpractised vaccine administration can increase the productivity of broiler chickens many folds and increasing productivity can help to make a healthy nation.



to is the improper spraying of day-old chicks against the Newcastle Disease(ND) and Infectious Bronchitis (IB). Upon arrival in control houses, chicks are sprayed with the vaccine with the use of conventional sprayers. Improper

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COMPOSITION PER KG:
Sodium benzoate 100g
Ethanol beta amino phosphoric acid 100g
Vitamin A 100000 IU
Vitamin E 2500 mg
Vitamin K3 1000 mg
Vitamin C 2500 mg

DOSAGE:
1 gm Per 1 Lit. in drinking water for 3-5 days.

PACKING:
1 - Sachets 10 x 100 gm
1 - Box 1000 gm

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اینتی ٹوکس

COMPOSITION PER KG:
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Ethanol beta amino phosphoric acid 100g
Vitamin A 100000 IU
Vitamin E 2500 mg
Vitamin K3 1000 mg
Vitamin C 2500 mg

DOSAGE:
1 gm Per 1 Lit. in drinking water.

PACKING:
1 - Sachets 10 x 100 gm
1 - Box 1000 gm

MILICOLI

ملی کولی

COMPOSITION (Per Liter):
Colistin Sulphate 200,000 IU

DOSAGE:
1ml Milicoli per 4 Lit. in drinking water for 3 consecutive days.

PACKING:
1000 ml

CAPTIVITOL

کپٹیو ویٹول

COMPOSITION (Per Liter):
VITAMINS:
Vitamin A 400000 IU
Vitamin E 10000 mg
Vitamin PP 2500 mg
Vitamin B2 250 mg
Vitamin B6 1000 mg
Vitamin B12 40 mg
Vitamin D3 40000 IU
Vitamin K3 400 mg
Vitamin B1 500 mg
Vitamin B5 2400 mg
Folic Acid (FPP) 120 mg
Choline 3750 mg
AMINO ACIDS:
Lysine 4000 mg
Methionine 2100 mg

MINERALS:
Manganese (as Chelate) 160 mg
Copper (as Chelate) 100 mg
Magnesium (as Chelate) 200 mg
Iron (as Chelate) 400 mg
Zinc (as Chelate) 120 mg
Selenium (as Selenium) 40 mg
Cobalt (as Cobalt) 12.3 mg
Potassium Chloride 10000 mg
Magnesium Sulphate 25000 mg
Sodium (Salt) 60000 mg

DOSAGE:
1 ml in 10 Liters of Drinking Water for 2-5 days.

PACKING:
1000 ml

TILOVALL

تیلو وال انجکشن

COMPOSITION (Per MLE):
Tilmoxon 200mg

INDICATIONS:
For the treatment of Respiratory disease, Mastitis, and Dysentery in farm animals.

DOSAGE:
1ml per 20kg body weight.

PACKING:
100 ml and 250 ml Vial

LINESVALL

لینز وال انجکشن

COMPOSITION (Per MLE):
Lincomycin HCL 50mg
Spectinomycin Sulphate 100mg

INDICATIONS:
Cattle For Treatment of Pneumonia caused by Salmonella, Dysentery caused by E. Coli, Heat Rite and Dysentery.

DOSAGE:
1ml per 10kg body weight.

PACKING:
100 ml and 250 ml Vial

Raees Ahmed Khan promoted as Director

AVN Report
KARACHI - Raees Ahmad Khan was recently appointed as Director of Sindh Institute of Animal Health (SIAH), formerly Sindh Poultry Vaccine Centre (SPVC), Livestock Department, Government of Sindh, Karachi. The Sindh government has promoted Haji Raees Ahmad Khan as Director SIAH, who previously fulfilled his responsibilities as Deputy Director Marketing at SIAH. He has been working in this department for the last 30 years.



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Advancement in veterinary vaccine adjuvants and development of Novel Eolane Based HS vaccine in Pakistan

Abdul Subhan, Aman Ullah Khan, Syed Ehtisham-ul-Haque, Muhammad Fiaz Qamar, Waseem Shahzad, Adnan Saeed, Tyyba Arshad, Shanza Khan, Muhammad Saqlain, izza

Veterinary vaccine adjuvants

Veterinary vaccines are mainly comprised of either subunit or inactivated bacteria/viruses. These vaccines require optimal adjuvants (except for DNA vaccines) and have various benefits, including dose reduction, greater efficacy in the elderly, and a broader immune response. Subunit recombinants are still more likely to be absorbed than pathogens that have been inactivated or live attenuated. They are, however, generally less immunogenic and require an adjuvant to stimulate the immune system to combat the disease. Numerous adjuvants, including mineral salts, have been evaluated for use in veterinary vaccines (aluminum), emulsions (Montanide), and polymeric micro- and nanoparticles that degrade in the body. In addition, "immune potentiators" refer to adjuvants that directly affect immune cells, resulting in activation of the immune system. In Pakistan, mostly inactivated vaccines include Bacterins of one or even more bacterial strains or dead viral strains produced most frequently in an oil or aluminum hydroxide adjuvant. Inactivated vaccines are more stable and cost less than live vaccines. Typically, the vaccine virus is grown in cell culture in roller bottles or bioreactors. Inactivation of the pathogenic organism to produce killed vaccines is achieved through physical or chemical procedures that result in protein denaturation or nucleic acid damage. Further purification of inactivated antigen and adjuvant

mixing is done. There is an urgent need to develop new and improved veterinary and human vaccine adjuvants.

Haemorrhagic Septicaemia

Haemorrhagic Septicaemia (HS), locally known as Gal-Ghuto, is a

and buffalo populations in Pakistan were expected to have reached 39.7 million and 34.6 million, respectively, during the years 2013-2014.

Researchers found that 20 million dollars had been lost per year in Pakistan due to the HS outbreak.

and pericarditis with marked thickening of the pericardial wall may be present. The lungs may be congested with varying degrees of consolidation and with a marked thickening of the interlobular septa. In the abdominal cavity, petechial

more effective than almost any measure of reducing mortality in HS.

HS Vaccines

Three of the most popular vaccines in Asia are the whole-cell formalin killed (Bacterins) *P. multocida* oil Adjuvant vaccine; Alum (adjuvant) precipitated vaccine, and Aluminium hydroxide gel vaccine

i. Aluminium hydroxide gel vaccine

Countries such as Laos and Thailand have been heavily involved in the development of an aluminium hydroxide gel vaccine and claimed that even with the use of supportive medicines or the body's immune modulators like vitamin E and levamisole, this type of vaccine could not provide significant immunity for more than 90 days.

ii. Alum (Adjuvant) precipitated vaccine

Before the 1950s, commercial manufacturers in the United States and the Philippines appeared to have experimented with alum-precipitated vaccines. Southern India and Central Africa have seen widespread use of the vaccine Alum (adjuvant) precipitated vaccine immunity induced by this kind of vaccine lasts for only 3-4 months

iii. Oil Adjuvant vaccine

A local strain of *P. multocida* is used to make an oil adjuvant vaccine (OAV). Formalin is used to cultivate and inactivate the strain. Centrifugation is used to generate bacterial pellets, which are then adjuvanted with Montanide oil ISA-50.

Commercially available HS Vaccines in Pakistan

Both Alum (Adjuvant) precipitated vaccine and Oil Adjuvant (Montanide) vaccines are prepared by Veterinary Research institute Lahore (VRI) and commercially available in Pakistan.

Novel Eolane Based HS vaccine

Novel EOLANE is a mineral oil TOTAL Special Fluid company that claims

Continued on Page 12



Nasal discharge and laboured breathing



Subcutaneous edema of mandible



Submandibular Edema



Coalescing Petechiae on Epicardium

significant epizootic disease that is fatal and highly contagious caused by the Veterinary pathogen *Pasteurella multocida* (*P. multocida*) serotypes B:2 in Asia and E:2 in Africa. *P. multocida* is a pleomorphic coccobacillus bacterium, bipolar staining, gram-negative, and non-motile bacteria and its infections in humans are rare. HS commonly occurs in both cattle and buffaloes, but buffaloes are more susceptible than cattle, and the disease occurs more frequently in developing countries due to poor husbandry conditions and causes significant economic loss. Haemorrhagic Septicaemia is included in the Old Classification of Diseases Notifiable to the OIE List B, which is Transmissible diseases that are considered to be of socio-economic and public health importance within countries and that are significant in the international trade of animals and animal products. Haemorrhagic Septicaemia (HS) caused a loss of USD 130 000.00 in India between 2007 and 2011, while more than half a million dollars are lost each year due to this disease in Malaysia. Cattle

Clinical Signs

Clinical symptoms are often not observed due to the acute nature of the disease but include high temperature (104.0-108.0°F), loss of appetite, nasal discharge, increased salivation and laboured breathing, with the subcutaneous edema of the mandible, neck, and brisket is a distinctive features of the disease (OIE, 2018). Death usually occurs quickly, and mortality is virtually 100% in infected animals. Proper recovery from clinical disease occurs only if the animal is treated in the very early stages, which is often impossible under prevailing field conditions.

Post mortem lesions

Upon opening an animal carcass that has died of HS, the most apparent lesion is subcutaneous edema - subcutaneous infiltration with yellow serosanguinous fluid, particularly in the submandibular and brisket regions. Subcutaneous petechial hemorrhages are also evident. There are also widespread petechial hemorrhages in the thoracic cavity, particularly on the base of the ventricles and the auricles. There may be excessive fluid in the pericardial sac,

hemorrhages are widespread in all tissues. Massive ecchymotic or petechial hemorrhages may also begin to show during this phase. As the disease progresses, the nasal discharge becomes opaque and mucopurulent. The respiratory distress becomes more acute, the animal lies down, and fatality is nearly 100%.

Treatment

Antibiotics are effective only if they are started very soon after the onset of clinical signs. A common practice is to monitor animals for fever and treat febrile animals immediately during outbreaks. Some drugs used to treat hemorrhagic septicemia include oxytetracycline, trimethoprim/sulfamethoxazole, a combination of penicillin and streptomycin, or sulphaquinoxaline. Antibiotic resistance has been reported in some endemic areas. The primary reasons for treatment failure in infected animals are the acute nature of the disease and its shorter duration. Only a comprehensive vaccination campaign will halt the disease's spread, and Humoral immunity is essential for disease defence. Vaccination is

Mitigating and adapting to climate change impacts and environmental degradation

Dr Maria Jamil

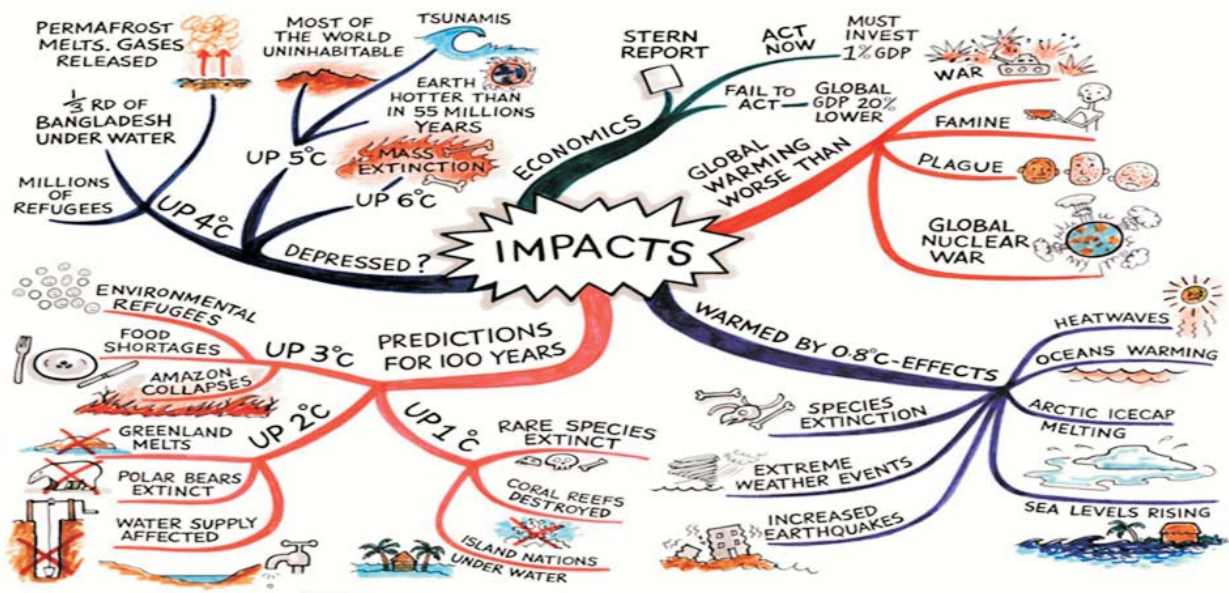
Department of Pathology, Faculty of veterinary science, University of Agriculture, Faisalabad

The climatic crisis is progressively disturbing. Luckily, there are several things that we may do to secure our future as flourishing as possible. Such activities fall into 2 main types: climate change mitigation and climate change adaptation. Such terms go hand-in-hand while directing through the climate crisis, however they mean altered things. Climate change mitigation mean preventing and declining the release of heat trapping greenhouse gases into the atmosphere to avoid the planet from heating to very dangerous temperature. Climate change adaptation mean changing our behavior, system and in few cases ways of life to defend our economies, families and environment in which we live from the influences of climatic alteration. Mitigation activities will take times to affect increasing the temperature, so we must adjust now to the alteration which is previously upon us and will remain to affects us in the predictable future. Adaptation solution differ from place to place, are hard to predict, and comprise of several trade-offs. The 1st step to adapting to climatic alteration is understanding the local risks and emerging plans to succeed them. The 2nd step is taken action putting system in place to rejoin to influences we are suffering today as we formulate for an indefinite tomorrow. The contribution to and effects of climatic alteration are by no means equally dispersed throughout the world. Flourishing countries are the main providers to greenhouse gas releases, specifically by the energy production and transportation, while the effects of climatic changes are normally felt very strongly in the developing countries that can have least capability to respond to the alterations. The magnitude of changes also vary geographically with polar areas suffering the largest extent of alteration in the physical environment. Generally environmental health concern have mainly focused on microbiological and toxicological threats to health from native exposure. While the scale of environmental health complications is rising due to the climatic changes and several large scale environmental threats to human population have been seems. Extremely susceptible system might be one that is very sensitive to uncertain alteration in climate and one for that is the capability to familiarize is strictly constraint. The EIS should

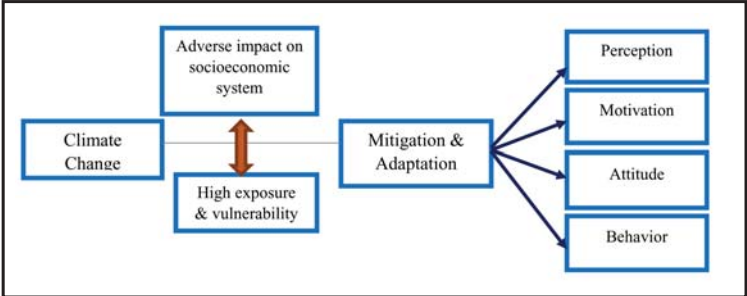
inspect and assess the progress as an effective greenhouse gas contributor. It should also investigate the effective climatic alteration impacts on the future development. I. Climatic changes is a Tragedy of commons where a mutual resource is endangered making it problematic to manage prices and welfares among the stakeholder. II. Climatic changes are the big cumulative effects of our period. If all the discharges from the human actions would abruptly stopped, the climate would continue to alter. While without a stronger reduction, anthropogenic greenhouse gas release will further enhances the global warming and alter climatic patterns. That's why climatic change mitigation is essential to prevent the worst impacts of climatic alteration and at the same time climatic alteration adaptation is essential to decline the susceptibility to climatic change effects which we could not avoid. Climate change is a reality that affects millions

impacts of this phenomenon, whose significance are previously being seem throughout the world. Mitigation is designed to tackle the causes and reducing the probable effects of climatic alteration, while adaptation seems at how to decline the harmful effects it has and how to take benefit of any prospects that arise. Where mitigation approaches fails to reach emissions of inhibition targets, climate resilience will be the key to decline the effects of climatic alteration and pave the way for our existence, as well as the rest of the Earths. Climate change is a tough fight. However, with mutual efforts and appropriate mitigation measures we can reduce the harm it causes. Major actions that help to mitigate and adaptation of climate change includes the improvement of energy efficacy and determining for renewable energy over the fossil fuels. Endorsing the public transport and viable mobility by enhancing the several journeys in towns through bicycle, decreasing the number of flights and enhancing trips through trains or in shared cars. By endorsing the ecological industry, agriculture, livestock and fish farming, food sustainability, responsible ingestion and follow the 3R rule such as reuse, recycle and reduce.

Apply tax on the usage of fossil fuels and CO2 emission markets. Along with mitigation actions to stem the global warming, and activities for adaptation of climatic changes also require to be encouraged: such as raising buildings and infrastructure which is safe and supportable. Replanting and restoring the spoiled ecosystem. Expanding the crops so that they enhanced the capability to adapt the climatic changes. Exploring and rising the advanced solutions to avoid and manage the natural catastrophes. Enhanced the action plans for the climatic emergencies. **Conclusion:** Climate change mitigation and adaptation are equally significant and time sensitive and we require to do both. You may support to mitigate the climatic changes through declining the emission in your own life, permitting your representative know you help the climatic smart policies and associative organizations and businesses to implement the renewable energy. As climate change is a severe problem, however our planet may continue to flourish if we work together to prevent the worse effects and adapt to our altered world.



of people throughout the world, particularly most susceptible, by enhancing the incidence and virulence of the dangerous meteorological phenomena which leads to substantial harm and population dislocation. Climatic change impact is serious by the contamination, overexploitation of natural resources and



environmental deprivation would lead to severe, persistent and probably irreversible alterations for people, assets ecosystem and economics throughout the world. Climatic change is sever hazard to the future of our planet, however there is still time for us to acclimatize to it and mitigate its impact. Currently International community had focused to limit the CO2 emission. However, based on recent data, it has been varied its efforts, endorsing the climatic change adaptation and mitigation policies to support diminish the

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Camel: The unmatched blessing

Ahmad Mustafa Kayani
(PMAS UAAR)
Muhammad Hussain Ghazali
(UVAS Lahore)

In this world, nothing has been produced purposeless. Allah Almighty has given this world unlimited gifts and everything has a great role. If we look deep down inside, it has many roles in our everyday life. The same case is with the camel that has been proved as the greatest blessing for mankind starting from Adam to date. There are great examples of the camel that has been proved as a source of blessing.

Islamic references:

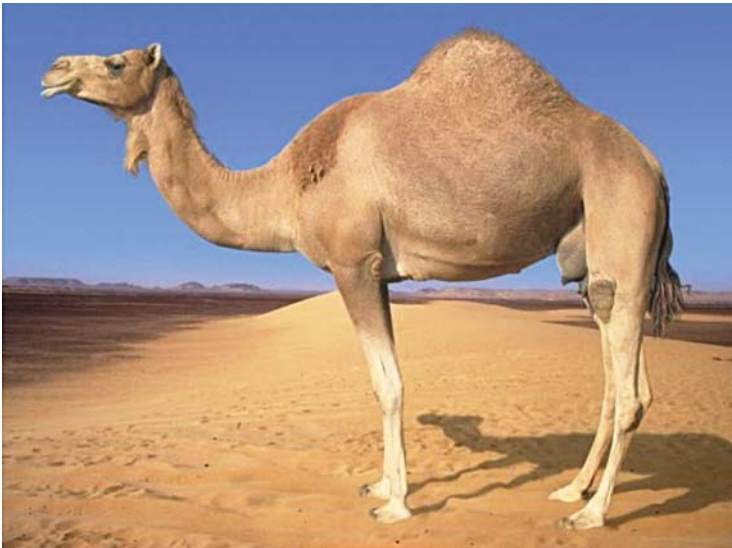
There are many examples in the Holy Quran and even we get great examples from the Hadith of the Holy Prophet Hazrat Muhammad (S.A.W). In Holy Quran, it is narrated that: Allah says in the name of Allah, the Beneficent the Merciful will they regard the camels, how they are created? In the same way, we get a great example and great worth from the Islamic history; that towards the people of Thamud, Allah sent a camel as his miracle. The story of Saleh is linked to the story of the She-Camel of God, which was the gift given by God to the people of Thamud; when they desired a miracle to confirm that Saleh was truly a prophet of Allah. In the same way, we also get some references from Hadith: It is narrated by Abu Qilaba, Anas said once some people from the Ukl tribe came to Medina and they could not adapt to the climate of the medina so Hazrat Muhammad saw said to them that go and drink milk and urine (as a medicine) from the heard of a camel, they did that so and became well. Through these two examples, we come to know that not only nowadays camel are important but they have been of great value all the time.

Use of camel in warfare

Back in the time when war used to be with swords camels were a great asset. The side having camels and horses would have an advantage over the others

Airplane of the desert

Camel is known as the airplane of the desert. It is because there are many adaptations of camel, that makes it best suitable or the desert so some of them are mentioned as under: The first of it includes long eyelashes. Hot air almost blows every time in the desert that also carries sand particles so these protect it from those sand grains. Then another example includes its nostrils. In the same way, sand grains can also enter the nostrils. So, they are also well adapted to avoid this problem. The best adaptation of the camel is its hunch. That proves a great



blessing for camel and makes it best suitable for desert. Camel can store a lot of food and store it in this for a long period. Another adaptation of the camel is its great protective skin as everybody knows that, the day in the desert is hot and night is cold. Both things are extreme so there must be suitable protection which is provided by the skin. Camels are also adapted to eat thorny food that makes it easy to survive in the desert Adaptation to water in a camel: There is always a shortage of water in the desert. A desert is a place that receives 20mm of rain per year. So there is a shortage of water. To overcome this problem camels can drink 120L of water in 10 min and use it for a long time which allows them to survive in that environment. Camel also has storage of

water which can be used by a human being but it is prohibited as in that case camel used for water would endanger their existence.

Milk of camel:

Camel milk has been an important diet and suitable from all aspects to the people of every time. Now a day's lactose intolerance among people is common. So they can't drink ruminant milk but in the case of camel, the camel milk lack Beta-lactoglobulin so it can be given to people with lactose intolerance. Diabetes is another common problem throughout the world. Every third person in the USA is having diabetes so camel milk can act as a great cure for it. Camel milk contains great antimicrobial bodies that include Antioxidative agents, Antibacterial, Antifungal, and Antiviral that can protect a person from many diseases. Suspicious advantages of camel milk: It is a common practice now a day that everybody wants to look young and the use of cosmetics is common in the world. Camel milk acts as an anti-aging agent and is used in cosmetics. It is also a remedy for autoimmune disorders. The nutrient profile of camel milk: Camel milk contains many different nutrients that are many benefits for humans

- Vitamin C
- Lactoferrins
- Lactoperoxidase
- Immunoglobins
- Lysozyme

Minerals in camel milk:

Camel milk contains Zinc and Magnesium which are very important for humans. They have a role in many metabolic processes of the body.

Conclusion:

Camel is a gift from nature and a blessings for the people. From the religious perspective, it has great importance and many examples are there. It was also used in the war. It is known as the airplane of desert and is well adapted to its habitat. The milk of camel has many important aspects and is useful in many different ways.



Impact of climate change on Helminth diseases (Ascaris, Lymphatic Filariasis)

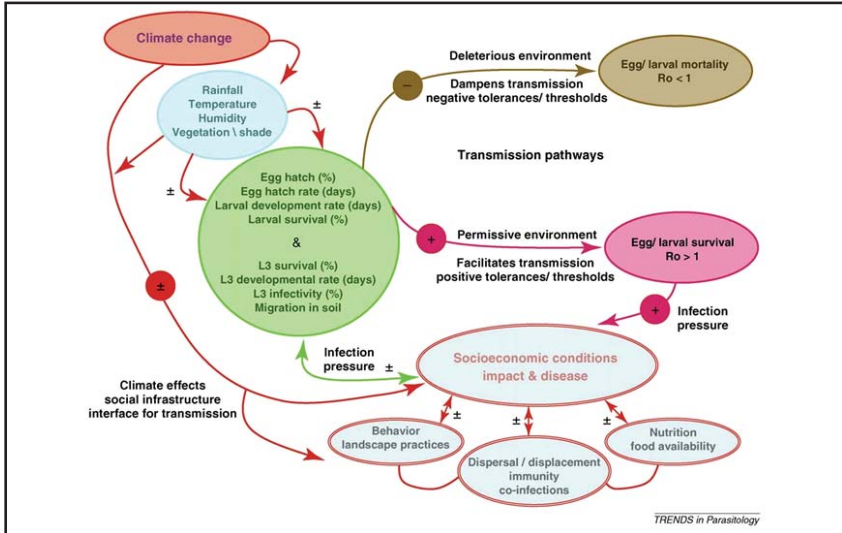
Muhammad Irfan
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Faisalabad)

Changing climate is likely to have an impact on the epidemiology of various human helminth diseases in the future decades. Nearly halfway through the twenty-first century, mankind is confronted with the reality of a rapidly changing climate: rising temperatures, shifting weather patterns and distributions, floods and droughts, and other extreme weather occurrences. In the future decades, all of these developments are projected to accelerate. Climate change will play an important role in predicting the overall viability of helminth species and the emergence or decline of human helminthiases, in conjunction with other global trends relevant to populations affected by neglected tropical diseases (NTDs), such as urban growth, conflict, human migrations, and economic shifts. Another element will be continued global attempts to manage or eliminate human helminthiases through MDA, vector control, and the supply of next-generation biotechnologies. Because worms have dynamic connections with their surroundings and, in certain cases, intermediary hosts such as snails or insect vectors, the consequences of climate change will differ by species and may be multifaceted. Climate change may also interact with the key socioeconomic factors mentioned above, as well as MDA, in a

synergistic or competitive manner. The ability of a larva to grow into an invasive stage and the duration of that stage is known to be dependent on the accumulation period of a particular quantity of heat, the so-called sum of Gadus-

out of the soil, adding to contamination of food.. The presence of a more comfortable temperature regime in this situation for the eggs preservation in the environment during the winter season might explain positive

greater temperatures and aridity, such as those seen in India and Pakistan. As Pullan and Brooker point out, it's unknown why greater soil temperatures in Africa benefit hookworm larvae but hotter temperatures in Asia don't have the same effect. Furthermore, because *A. lumbricoides* can live in urban settings, we might predict high incidence of human ascariasis in Asian megacities to persist. The WHO has set LF as an objective for eradication by 2020, and is attempting to achieve that goal by expanding MDA in afflicted countries, but climate change might sabotage these efforts. There are various kinds of filarial-transmitting mosquitos that might spread as tropical and subtropical regions expand in the future. Indeed, due to the impacts of climate change and population expansion, one research utilized maximum entropy ecological niche modelling to forecast that the present at-risk population might rise from 543-804 million (about in line with current WHO projections) to 1.65-1.86 billion. In addition, a 2007 monitoring study of vector-borne illnesses in Nepal discovered that LF transmission had shifted from lowland and hill areas (targeted by MDA program beginning in 2003) to Nepal's mountain regions. Higher altitudes were formerly thought to be low-risk due to mosquito vectors' inability to live there. As a result, expected climatic changes may benefit LF transmission and may necessitate an increase in worldwide MDA or vector control measures, particularly in places not previously thought prone to LF endemicity.



days, which is determined using effective temperature changes. The results of our correlation and regression study (in terms of climatic parameters) match the data provided by Russian experts. It is well known that, in addition to temperature, humidity has a significant impact on *Ascaris* egg development. Thus, the maximum rate of egg development is found when the soil humidity is at its peak, but when it drops below 8%, their development ends. Positive associations between occurrence and moisture in June appear to be highly reasonable in this regard. Precipitation can help not only to damp the soil and so increase the development of the eggs, but it can also help to wash mature eggs

correlations between incidence and snow cover. Although immature *Ascaris lumbricoides* eggs are more resistant to cold temperatures than mature ones, they nonetheless slow down their growth rate when exposed to temperatures below -12°C for three months. In such circumstances, mature eggs perish entirely. We might predict more invasive *Ascaris lumbricoides* eggs in the Central region environment due to major changes in the temperature regime in recent years, particularly warming in winter. However, investigations of the same four nematode species in Asia show that *A. lumbricoides* may become prevalent in that region due to its capacity to survive

Continued from front page

Pakistan mango production drops ...

at the time of fruiting due to shortage of canal water, electricity load shedding and diesel shortage. The growers could not operate their tube wells due to power outages. Shahid Hameed Bhutta, a farmer, also expressed his concern over the low production of mangoes. He said that climate change was one of the important factors. For other reasons, he added that political instability during March-April, and "poor performance of the bureaucracy" also damaged the mango crop.

Continued from Page 02

PPA Chairman assures of reducing ...

Members of Punjab Assembly Ramzan Siddique Bhatti, Sardar Owais Leghari, Chaudhry Muhammad Iqbal, Secretary Industry and Commerce Dr Ahmed Javed Qazi, Additional Secretary Livestock and concerned officers attended the meeting. Vice-Chairman Pakistan Poultry Association Dr Abdul Karim, former Chairman Abdul Basit, Secretary Major (retd) Javed Bukhari, SM Sabir and others were also present.

Continued from Page 06

Advancement in veterinary vaccine ...

that Eolane oil is a Short-chain hydrocarbon (C15-C20) with Low viscosity, Low PAH content and is biodegradable. As an adjuvant in vaccines, this oil has high efficacy, safety and is easy to inject. Novel Eolane Based HS vaccine produced under Punjab Agriculture Research Board (PARB) funded Project No. 629 titled "Development Of Cost-Effective Oil-Based Hemorrhagic Septicemia Vaccine Using Eolane as Adjuvant" project awarded to Prof. Dr Syed Ehtisham-ul-Haque Chairman Department of Pathobiology CVAS Jhang and Dr Waseem Shahzad Sr. Veterinary Officer Veterinary Research Institute (VRI), Lahore, Pakistan. The master seed for HS vaccine prepared by VRI and preparation of Bacterins (killed bacterial vaccine) antigen suspension was prepared as 0.5% formalized seed culture and adjusted concentration as 2mg/ml suspension. Final vaccinal preparations were made by mixing antigen suspension with mineral oils as 1:1 Oil adjuvants Eolane-170 (E170) and Eolane-150

(E150) is used. Novel Eolane based vaccines are prepared and successfully evaluated in lab animals at VRI and University of Veterinary and Animal Sciences Lahore (Sub-campus Jhang). After a successful evaluation of immune response in large animals (buffalo and cattle calves), by Indirect Haemagglutination (IHA) and by Specialized in-house prepared indirect enzyme-linked immunosorbent assay (ELISA) kit by comparing the efficacies with commercially available and imported vaccines, the best Eolane Based vaccine will be available soon to the farmers. The Montanide-based vaccination is currently being used in Pakistan to combat HS. Adjuvant Montanide must be imported from France at a high cost, even though the vaccination is effective for up to one year. Vaccine production may be hampered in an emergency if supplies are delayed. It is, therefore, necessary to have an adjuvant as an alternate and cost-effective and immunogenic for the entire year. It will revolutionise advancements in veterinary vaccine adjuvants and develop a cost-effective, safe, Novel Eolane based HS vaccine.

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Emerging epidemic of monkeypox disease in human population

Dr Arsalan Khan, Dr Muhammad Jamil, Dr Imtiaz Ali Shah, Dr Noman Latif
Veterinary Research and Disease Investigation Center,
Dera Ismail Khan
Arid Zone Research Center, PARC, Dera Ismail Khan

Epidemiology: Monkeypox disease is an emerging viral zoonosis characterized by the skin lesions resembling the small pox disease, but the signs and disease onset is less severe than small pox disease. The cases of Monkeypox disease have been reported to World Health Organization (WHO), since 13 May 2022 by the non-endemic countries. Non-endemic are those countries where the disease was not prevailing but recent surge in cases is reported. Most of the cases were reported from Canada, Australia and Spain. While, the endemic regions to Monkeypox disease were Central and West African countries.

Cause: Monkeypox disease virus is a double stranded DNA virus which belongs to the genus Orthopox virus and family Poxviridae. It is interesting to know that the causative agent of the recent outbreak of Lumpy Skin Disease in animals and Monkeypox disease in humans, belong to the same family, Poxviridae. Monkeypox disease infects both animals and human beings. The virus was first isolated in the monkeys kept for research purpose in the Denmark in 1958, showing small pox like lesions on their skin. Later on the virus was also identified in humans in 1970.

Transmission

- Monkeypox disease virus is zoonotic as well as contagious in nature.
- It is transmitted to human beings via bites and scratches by the animals (zoonosis).
- Then the virus is transmitted to healthy people by direct contact with the body fluids of infected persons like air droplets, nasal secretions, sputum, blood, lymph etc.
- The disease can also be transmitted through fomites. Fomites are the non living objects which can spread the disease like clothes, utensils,



Fig: Monkeypox disease in human population

bedding materials etc.

Routes of infection

- The major route of infection and transmission of the Monkeypox disease virus is through respiratory tract via air droplets.
- The virus also causes infection through abraded skin, wounds and scratches.
- The virus can also penetrate the mucous membrane of eyes, conjunctiva, mouth and nose.

Incubation period: The incubation period of the disease ranges from 10-14 days.

Mortality rate: The mortality rate of the disease is 10-17%, whereby the disease incidence is more severe in children than adults. The case fatality rate is children is the highest.

Clinical Signs: At the initial stage the skin lesions are not remarkably seen, rather general signs like fever, malaise, headache, fatigue, muscular ache, chills and lymph nodes swelling is seen. After 3-5 days the following characteristic signs appear:

- The body rash starting from the face and extending to the whole body.
- Skin lesions resembling the lesions of small pox disease.
- Skin lesions are circumscribed, rounded, highly painful and pruritic. The lesions are hard to touch and raised from the skin with dot at their tips.
- The lesions are deeply innervated in the skin.
- Secondary bacterial infections worsen the disease and cause complications.
- Itching throughout the body.

- Fever and sore throat.

These Monkeypox disease lesions bear 05 stages:

1. Macules: Small sized skin lesions of size less than 1 cm. These are the initial stage lesions which are flat and can be felt with touching. These lesions last for 02 days.

2. Papules: The macules increase in size with raised edges form the papules which also last for 02 days.

3. Vesicles: Vesicles are the raised skin lesions filled with the clear fluid. Vesicles last for 03 days.

4. Pustules: Pustules are the lesions containing pus. These are rounded, hard and raised, lasting for 07 days.

5. Scabs: The pustules are crusted and dried, forming scabs. This is non-contagious stage and the person does not transmit the virus at this stage, while, the former four stages are contagious and highly infectious. The scabs then disappear after 14 days.

Monkeypox disease is differentiated from the small pox disease by the lymphadenopathy (swelling of lymph nodes of the body), which is seen in Monkeypox disease and absent in small pox disease.

Diagnosis: The disease can be diagnosed by clinical signs and for confirmation of the pathogen, the PCR (polymerase chain reaction) test is recommended at molecular level.

Treatment

- FDA has approved the use of the following two antiviral drugs in humans with least side effects.
- 1. Cidofovir
- 2. Brincidofovir
- Antibiotics are used to prevent the secondary bacterial infections.
- Symptomatic treatment include anti inflammatory drugs to relieve pain and fever, topical lotions to minimize the itching of the lesions and skin tonics to reduce the disease duration.

Prevention: • Small pox vaccine showed 85% efficacy against the Monkeypox disease and can be used effectively to prevent the disease spread to healthy community.



فراہم کیں اور اس سے متعلق کام کرنے کی مختلف ترکیب سامعین کے گوش گزار کریں۔

ایونٹ کے اختتام پر پروفیسر ڈاکٹر اجلیس بھٹی نے طلباء سے روایتی گفتگو کی اور ان کے سوالات کے جوابات دیے۔ اور انتظامیہ کی کاوشوں کو سراہا۔

اسکے بعد ہاڈی ماس سکورنگ کی کلینک ایریا میں پریکٹس کی گئی جس میں سٹوڈنٹس کو پوکوپریکٹیکل جسمانی درجہ بندی کر کے دکھائی گئی اور طلبہ نے اس میں دلچسپی کا اظہار کیا۔

اس ایک معلوماتی ایونٹ کے اختتام پر پڑا ڈاکٹر محمد زاہد فاروق نے آنے والے معزز مہمانوں کا شکریہ ادا کیا اور سٹوڈنٹس کو یقین دلایا کہ ہم مستقبل میں مزید ایسے معلوماتی یونٹس کو آرگنائز کر رہے ہیں گے۔

جانچنے کے لئے اپنی انگلیوں اور انگوٹھے کو جانور کی ریڑھ کی ہڈی اور چھوٹی پسلیوں کے درمیان آگے پیچھے پھیرے۔

پیچھے پر چربی اور گوشت کی مقدار کو محسوس کریں جو کہ چھوٹی پسلیوں، ریڑھ کی ہڈی اور ان کے درمیان پٹھوں پر مشتمل ہوتا ہے۔

جسمانی درجہ بندی ہڈیوں کے انتہائی گولائی، ہڈیوں کے درمیان ٹشو اور بھرے پٹھوں کی بنا پر کی جاتی ہے۔

ایونٹ کے چیف آرگنائز پروفیسر ڈاکٹر اجلیس احمد بھٹی صاحب (چیرمین ڈیپارٹمنٹ آف اینیمل سائنسز) کی زیر نگرانی تمام معاملات طے پائے۔

معزز ڈاکٹر صاحبان نے موضوع سے متعلق معلومات

جسمانی درجہ بندی پر سیمینار

کالج آف ویٹرنری اینڈ اینیمل سائنسز جھنگ میں ڈاکٹر محمد زاہد فاروق اور ڈیری کلب کے زیر اہتمام 27 جنوری 2022 کو ہاڈی ماس سکورنگ کے حوالے سے سیمینار کا انعقاد....

ہاڈی کنڈیشن سکورنگ ایک ایسا پیمانہ ہے جس سے جانور کے جسمانی ذخائر یعنی چربی کی مقدار کا تعین کیا جاتا ہے۔ ہاتھ کی مدد سے چربی کی مقدار کا اندازہ لگایا جاتا ہے اور پھر اس کے مطابق جانور کی درجہ بندی کی جاتی ہے۔ بھیر، بکری کی درجہ بندی کرتے وقت پانچ نکاتی پیمانہ استعمال کیا جاتا ہے۔ ایک انتہائی دبلے پتلے اور لاغر جانور کو ایک نمبر دیا جاتا ہے اور مومے تازے اور فربہ جانور کو پانچ نمبر دیے جاتے ہیں۔ آدھا نمبر دینے کا رواج بھی عام ہے۔

انیمل سائنسز فیلڈ کی نامور شخصیات نے پروگرام میں شرکت کی جن میں سینیئر ایریا ایڈوائزر آف سماں ruminants پراجیکٹ پنجاب ڈاکٹر عطاء الضیاء اور

ایریا ایڈوائزر ڈاکٹر سنبیل سرفراز شامل ہیں۔

ڈاکٹر عطاء الضیاء صاحب نے سٹوڈنٹس کو بتایا کہ جسمانی درجہ بندی کیوں کی جاتی ہے؟

انہوں نے بتایا کہ جانور کی غذائی حالت کو جانچنے کا ایک حقیقی طریقہ ہے۔

کسی قسم کے تازہ، کانٹے یا آلے کی ضرورت نہیں پڑتی۔

یہ پیمانہ جانور کے قد، جمل اور اون کی مقدار پر انحصار نہیں کرتا۔

قبل از فروخت جانور کی جسمانی حالت کا ایک بڑا مددگار اندازہ ہے۔

یاد رہے کہ یہ پیمانہ ایک سال سے چھوٹے جانوروں کے لیے موزوں نہیں ہے۔

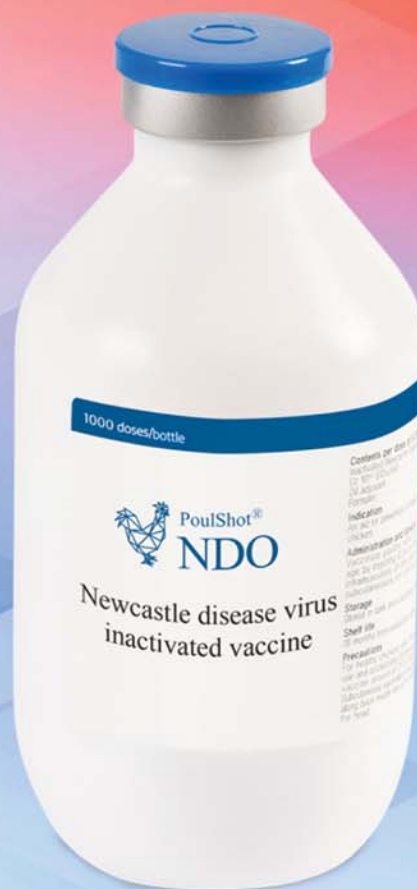
ڈاکٹر عطاء الضیاء صاحب نے طلباء اور سامعین کو بتایا کہ کنڈیشن سکورنگ یا جسمانی درجہ بندی کیسے کی جاتی ہے۔

انہوں نے بتایا بھیر بکریوں کی جسمانی کنڈیشن سکورنگ



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Monkey-Pox Virus

Tabassum Abro
University of Haripur
Ghazanfar Abbas

Collage of Veterinary and Animal Sciences Jhang

Introduction

The world continues to struggle with the coronavirus that caused the death of more than 6 million people worldwide. Currently, world is threatening with the monkeypox that is up to know detected in dozens of countries, especially in Europe, USA and Canada. This disease is progressing faster in the recent months. Monkey pox infectious disease are killing significant number of people worldwide, if it is not to be control timely. This zoonotic infectious disease is caused by a virus named "Monkeypox". It is re-emerging disease of species

Orthopoxvirus with large double-stranded DNA of 20,000 bp. In 1958, this virus was first isolated from Crab-eating macaque monkeys. Monkey pox virus is closely similar with other human orthopoxvirus, included variola, vaccinia viruses and cowpox. the clinical presentation of monkey pox is similar to smallpox but less severe. Smallpox was

eradicated worldwide in 1980, however, monkey pox still occurs infrequently in parts of Central and West Africa, near tropical rainforests.

In last five decades, most human infections with monkey pox virus have been reported from Democratic Republic of the Congo (DRC), where it is a reportable disease and till now caused more than 1000 cases per year. Reports from human monkey pox virus outside of DRC West and Central Africa were infrequent with 21 cases reported from 7 countries. In 1970's and 1980's, maximum cases of monkey pox reported. Since 2016, Central African Republic, DRC, Nigeria, Liberia, and Republic of Congo confirmed cases of human monkey pox cases have been reported. Monkey pox diseases are in continuous evolution; therefore, it is necessary that health ministry stay abreast of the new techniques for diagnosis of human monkey pox virus, develop most effective treatment and

vaccines for human monkey pox. Reported cases showed that the disease is communicable or highly pathogenic in Ireland that is why it is categorized as a Biosafety Level 3 pathogen.

Worldwide outbreak reports

Monkey pox infection cases have been reported by WHO from 12 States member. However, since 13 May 2022, States member those are not endemic for monkey pox virus, across three WHO regions. On monkey pox Epidemiological investigations are ongoing, however, the reported cases have no travel history established to endemic areas. On the basis of available current information, Men who identify as guy or bisexual men sexing with man (MSM) are the more likely to be diagnosed.

NIH, at the provincial level, all concerned health departments and authorities should be on high alert, and all public and private hospitals should be prepared for diagnosis, isolation and treatment of monkey pox disease.

How monkey pox virus get transmitted

There are two ways that monkey pox virus gets transmitted. The human and animals, close contact with infected person, touching sores, touching clothes that infected person wear and large respiratory droplets. The animal biting and scratching, eating meat of infected animal and rodent's prairie dogs.

The mode of transmission for instance it would be shorter incubation period, it is been said up to 5-12 days for biting and scratching, however infected human contact can be up

to 12-16 days even longer.

Clinical signs and symptoms

In humans, the symptoms of monkeypox are similar to but milder than the symptoms of smallpox. Monkeypox begins with fever, headache, muscle aches, and exhaustion. The main difference between symptoms of smallpox and monkeypox is that monkeypox causes lymph nodes to swell (lymphadenopathy)

while smallpox does not. The incubation period (time from infection to symptoms) for monkeypox is usually 7-14 days but can range from 5-21 days.

The illness begins with Fever, Headache, Muscle aches, Backache, Swollen lymph nodes, Chills, Exhaustion

Within 1 to 3 days (sometimes longer) after the appearance of fever, the patient develops a rash, often beginning on the face then spreading to other parts of the body.

Lesions progress through the following stages before falling off, Macules, Papules, Vesicles, Pustules, Scabs.

Diagnosis

Clinically the monkey pox disease is indistinguishable from other illnesses like smallpox, the laboratory diagnosis is most important therefor. Particularly small pox and chicken pox included in variola, vaccinia viruses and cow pox. Even though the natural animal reservoir of the monkey pox is unknown. Rodents and

>>>>>



- Among the paper, the main UK Health Security Agency advised homosexual and bisexual men to be vigilant of any strange rashes or lesions, since the majority of UK instance have been found in homosexual and bisexual males.
- According to studies from Africa, monkey pox kills up to one in every ten people who developed the illness.
- In Pakistan no monkey pox cases has yet been diagnosed. Pakistan's top health body issues monkey pox alerts. According to the



<<<<<<
prairie dogs are the probable source of its initiation. Clear understanding is must require for laboratory diagnosis for the virulence and transmissibility of human monkey pox, the disease has been limited by unpredictable in epidemiological research.

Treatment

For the treatment of monkey pox infection antiviral drugs may to use, also the smallpox vaccine and vaccinia immunoglobulin may use, presently no current proven treatment used against human monkey pox disease, in terms of treatment there is no specific drugs against monkey pox. Reports showed that the US FDA approved (Tecovirimat) in 2018 and it may also be more effective against human monkey pox disease as means to overcome the cases of monkey pox.

Preventive strategies

The signs and symptoms of monkey pox is closely related with other diseases, it is feasible that some monkey pox infected patients may be misdiagnosed with other disease. Because the source of the infection has not yet been recognize. The WHO and health agencies recommending countries to enhanced the monitoring of local rash cases which are coming, as well as tracing and

tracking of feasible cases. According to WHO, the health agencies should consider a proper diagnosis of monkey pox virus infection, as when associated signs and symptoms similar to monkey pox, early detection of cases tracking and isolation of suspected cases should be done, and then elevate people's

address the critical gaps and tough challenges in counter of monkey pox outbreaks. The animal reservoir and ecology of the monkey pox disease dynamics, and natural history of infectious disease need to be conducted on a number topics in order to ameliorate the knowledge base understanding by research

According to the NIH, cases of monkey pox have been reported in countries where it has not spread, so the preventive strategies must be kept for the risk assessment

Surveillance strategies

Furthermore, spread of monkey pox virus controlling, improve the surveillance, case management capacities, and clinical detections. Develop applicable messages for prevention and intervention, strengthen implementation for cross border communication and information sharing on cases of monkey pox to ensure plans, Guide one health approach for identification of monkey pox infected confirmed cases monitoring, controlling and outbreak response plan. In contact with all endemic countries, develop a monkey pox field plans and disease controlling programme, develop set of activity against infectious disease. Ensure associated training include laboratorians, clinicians, a

comprehensive programmatic approach for surveillance officers. Reinforce management of data, sharing and analysis functions within countries specifically for all zoonotic disease. Ratify and reinforce animal and human health relationships, integrate and exchange information related to monkey pox.



awareness of the monkey pox disease are basic need to preventing secondary infection and effectively monitoring and controlling the epidemic. According to the global health agencies, partners and orthopoxvirus experts to consider the current situation, the state of knowledge, recognition needs and

authorities. For public health interventions the diagnosis, treatment, vaccination and therapeutics requirements more should be enhance, for the identification and detection of monkey pox and other orthopoxviruses laboratories must reinforce the capacities of work within the endemic countries.

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بقیہ: صاف دودھ کی پیداوار

بیانت کا مرحلہ: دودھ میں پائی جانے والی چکنائی، نشاستہ (Lactose) اور کمیات مرحلے کے حساب سے مختلف ہوتے ہیں۔ چکنائی کے علاوہ ٹھوس اجزاء پہلے 2 سے 3 ہفتوں میں عام طور پر زیادہ ہوتے ہیں اور اس کے بعد یہ کم ہوتے جاتے ہیں۔ دودھ کا معیار: صحت مند جانوروں کے دودھ میں بیکٹریا کی تعداد کم ہوتی ہے۔ اگر صفائی کا نظام ناقص ہو تو ماحول سے اضافی بیکٹریا دودھ میں شامل ہو کر اس کو جلد خراب کرنے کا باعث بنتے دودھ دوہنے اور محفوظ کرنے کے عمل کے دوران اگر اچھی باتوں پر عمل یقینی بنایا جائے تو دودھ کی تازہ رہنے کی عمر بڑھ جاتی ہے۔

خوراک: گائے کو دودھ دوہنے وقت یا دوہنے سے کچھ دیر پہلے خیرہ چار کھانے کو نہ دیں کیونکہ اسکی وجہ سے دودھ کا ذائقہ خراب ہو جائے گا۔ یاد رکھیں کہ خیرہ چارہ جانور کو دودھ دوہنے سے 2 گھنٹے قبل دینا چاہئے۔ جانور کو دی جانے والی خوراک یا خوراک میں شامل اجزاء میں افلا ٹاکسن (Aflatoxins) مقدار محفوظ سطح سے زیادہ ہو سکتی ہے اور ہر دودھ میں شامل ہو کر انسان میں نقصان دہ اثرات کا سبب بنتا ہے۔ مویشی پال کسانوں اور صارفین میں اس مسئلے سے متعلق آگاہی پیدا کرنے کی ضرورت ہے۔

گائے کی صحت: بیمار جانور کم خوراک کھاتا ہے اور اس کے دودھ کا معیار بھی کم ہو جاتا ہے۔ گائیوں کو ہمیشہ تندرست اور صاف رکھنا چاہئے کیونکہ بیمار جانور تپ دق اور بروسیلوس جیسی بیماریاں دودھ استعمال کرنے والے صارفین میں منتقل کر سکتے ہیں۔ اگر آپ کو اپنی گائے بیمار محسوس ہو تو فوری طور پر تربیت یافتہ جانوروں کے معالج سے رابطہ کرنا چاہئے۔ اگر گائے کا علاج جراثیم کش دوائی سے کیا جا رہا ہو تو دودھ میں دوائی کا اخراج رک جانے تک، آپ کو نہ تو دودھ فروخت کرنا چاہئے اور

نہ خود پینے کیلئے استعمال کر لیں۔ بیماریوں خاص طور پر حیوانی کی سوزش کی وجہ سے چکنائی اور چکنائی کے علاوہ پٹھوں اجزاء کم ہو سکتے ہیں۔ جانور اور حیوان کی صحت: جانوروں سے انسانوں کو لگنے والی بیماریاں دودھ کے ذریعے سے جانوروں سے انسان کو لگنے والی بیماریاں ٹی بی اور بروسیلوس انسانوں میں پھیل سکتی ہیں۔ ان بیماریوں میں مبتلاء گائیوں کی زندگی کا فیصلہ کرنے کیلئے تربیت یافتہ جانوروں کے معالج سے صلاح لینا ہوگی۔ مویشی پال کسانوں کی حوصلہ افزائی کرنی چاہئے تاکہ وہ جانوروں کو بروسیلوس کی بیماری سے بچاؤ کے حفاظتی ٹیکے لگوائیں۔ جانوروں کو وقفے وقفے سے تمام متعدی بیماریوں کیلئے دیکھتے رہنا چاہئے اور بیماری کی صورت میں فوری علاج کروانا چاہئے۔ حیوانی کی سوزش: حیوانی میں تھنوں کے غدود میں سوزش کو سوزش حیوانی کہتے ہیں جو یہ بیماری پیدا کر نیوالے بیکٹریا کی وجہ سے ہوتی ہے۔ یہ بیکٹریا دودھ میں شامل ہو جاتے ہیں اور اس دودھ کے استعمال کا نتیجہ بیماری کی صورت میں دیکھتا ہے، اسی وجہ سے حیوانی کی سوزش میں مبتلا گائیوں کا دودھ نہ تو فروخت کرنا چاہئے اور نہ ہی پینا چاہئے۔ حفظان صحت کے مطابق گندگی سے پاک دودھ دوہنے کے طریقے پر عمل کر کے حیوانی کی سوزش پر قابو پایا جاسکتا ہے۔ حیوانی پر موجود بالوں کو کاٹ کر چھوٹا کرنا چاہئے۔ سوزش حیوانی میں مبتلا گائیوں کا علاج تربیت یافتہ معالج سے کروانا چاہیے۔ ایسے جانور جن کا جراثیم کش ادویات سے علاج کیا جا رہا ہو، ان کا دودھ فروخت یا استعمال نہیں کرنا چاہئے۔ جب تک دودھ میں دوائی کے ذرات کا اخراج رک نہ جائے کیونکہ یہ دودھ پینے پر ذرات الرجی اور دواؤں کا اثر نہ کرنے کا سبب بنتے ہیں۔

دودھ کو پیدا کرنا اور صاف اور محفوظ رکھنا مویشی پال کسانوں اور دودھی کی اہم ذمہ داری ہے۔ معیاری اور صاف دودھ پیدا کرنے کیلئے

مندرجہ ذیل باتوں پر غور کرنا چاہئے۔

گائے: یہ صاف دودھ پیدا کرنے کے مرحلے میں سب سے اہم ہے۔ جانور کا مٹی گرد وغبار اور بیماریوں (جیسے ٹی بی، بروسیلوس اور حیوانی کی سوزش) سے پاک تندرست ہونا چاہئے۔ دودھ دھونے والے برتن کا صاف ہونا

دودھ دوہنے والے برتن صاف اور بیکٹریا سے پاک ہونے چاہئیں۔ دودھ دوہنے اور محفوظ رکھنے والے ماحول کو صاف ہونا چاہئے۔

دودھ سنبھالنا: تمام لوگ جو دودھ سنبھالیے میں شامل ہوتے ہیں ان کا بیماریوں سے پاک اور صاف ہونا ضروری ہے۔ دودھ دوہنے والے کے کپڑے صاف ہونا چاہئیں۔

دودھ کو ٹھنڈا اور محفوظ رکھنا: دودھ کو سنبھالنے ڈھنڈے رکھنے اور محفوظ کرنے کیلئے مناسب سہولیات کا ہونا ضروری ہے۔

محفوظ کرنے کیلئے 4 ڈگری سینٹی گریڈ پر درجہ حرارت ہونا۔

خوراک: کھانے کیلئے: کچھ خوراک کا ذائقہ دودھ میں شناخت کیا جاسکتا ہے۔ ایسی خوراک جانور کو دودھ دھونے کے بعد دینی چاہئے اور جانور کو دودھ دھونے سے 1 گھنٹہ قبل چرائی سے واپس لے آنا چاہئے۔

کھیاں: بکھیوں کی زیادہ تعداد جانوروں کو تنگ کرتی ہے۔ ان کے خاتمے کا مناسب پروگرام اختیار کرنا چاہئے کیونکہ دودھ میں بیکٹریا کی تعداد بکھیوں پر بھی منحصر ہے۔

پانی: فارم پر پانی وافر مقدار میں موجود ہونا چاہئے۔ صاف دودھ کی پیداوار کیلئے صاف پانی کی فراہمی بہت ضروری ہے۔

اچھے طریقے سے دودھ دوہنا: اس میں باقاعدہ وقفوں اور تیزی سے دو ہنا شامل ہے۔

علم کسانوں اور صارفین کو صاف اور محفوظ دودھ کے بارے میں آگاہی کیلئے کو معلومات دینی چاہئے۔

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ملانا چاہئے اور گائے کا سارا دودھ دھونا چاہئے۔ حیوانے میں رہ جانے والی چکنائی اگلی بار دودھ دوتے وقت دودھ میں شامل ہو جاتی ہے۔ اسلئے چکنائی کا نقصان نہیں ہوتا۔
پچھڑے کی پیدائش کے بعد دودھ میں چکنائی کا جزو زیادہ ہوتا ہے جو کہ بعد میں کم ہونا شروع ہو جاتا ہے اور 10-12

گائے کے دودھ میں 5 فیصد چکنائی پائی جاتی ہے جبکہ فریزنگ گائے میں چکنائی 3 تا 4 فیصد ہوتی ہے۔ وہی گائے 7 فیصد چکنائی والا دودھ دے سکتی ہے۔ دو غلے جانوروں میں چکنائی کا جزو مقامی اور دوسروں ملکوں سے آنے والے جانوروں کی نسل میں پائی جانے والی چکنائی کے جزو کے درمیان ہوتا ہے۔ بھینس کے

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تعارف: خام دودھ کے صارف اور فروخت کنندہ توقع کرتے ہیں کہ وہ جو چیز لے رہے ہیں وہ تازہ اور قدرتی اجزاء والی ہے، ان مقاصد کو حاصل کرنے کیلئے دودھ پیدا کرنے والے، اکٹھا کرنے والے اور فروخت کرنے والے لوگوں کو حتی الامکان کوشش کرنی چاہئے۔

اگر صارف کو پاکستان میں پیدا ہونے والا تازہ معیاری دودھ نہیں ملے گا تو وہ درآمد شدہ دودھ خریدنا شروع کر دیں گے جس کی وجہ سے ڈیری کی صنعت سے وابستہ لوگ اس بہت اہم کاروبار میں اپنے حصے سے محروم ہو جائیں گے مستقبل میں دودھ اور اس سے بنی مصنوعات کی برآمد بھی متاثر ہوگی۔ یہ ترقی پزیر دنیا بھر میں یوٹاک کے توسیعی عملے کو ڈیری فارمرز کی تربیت اور اصلاح کیلئے استعمال کرنی چاہئے تا کہ کھک سان تازہ دودھ کی صفائی کے معیار کو حفظان صحت کے مطابق بہتر کر کے صارفین کو خوش کر سکیں اور دودھ کی پیداوار کو مستقل بنیادوں پر حاصل کر سکیں۔

دودھ میں پائے جانے والے اجزاء کی ترکیب: دودھ میں پائے جانے والے اہم اجزاء میں پانی، دودھ میں موجود نشاستہ (لیکٹوز)، چکنائی

لحمیات اور نمکیات شامل ہیں۔ دودھ ایک قدرتی طور پر پیدا ہونے والی چیز ہے جو منجھتی طور پر نہیں تیار کی جاسکتی۔ دودھ کے اجزاء کی ترکیب بدلتی رہتی ہے اور 100 فیصد ایک جیسی نہیں رہتی۔

گائے کے دودھ کی اوسط ترکیب درج ذیل ہے۔
پانی 87 فیصد چکنائی 4 فیصد، لحمیات 3 فیصد، دودھ کی نشاستہ 5 فیصد، نمکیات 1 فیصد

دودھ کے اجزاء کی ترکیب پر کوئی چیز میں اثر انداز ہوتی ہیں؟
گائے کی نسل اور انفرادیت: دودھ دینے والی گائے میں نسل اعتبار سے دودھ کی پیداوار اور دودھ کے اجزاء کی ترکیب کافی حد تک مختلف ہوتی ہے۔ جری نسل کی

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