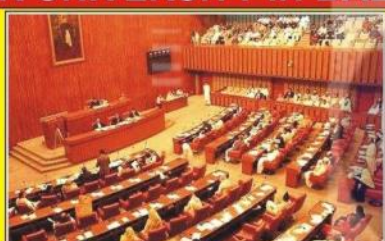


SENATE BODY FOR ESTABLISHMENT OF LIVESTOCK UNIVERSITY IN BALOCHISTAN

Senate Standing Committee on Inter-Provincial Coordination in its meeting has called for a livestock university in areas of Balochistan which are rich in livestock so that the knowledge can be attained and applied where it is needed.

The meeting was held under the Chairmanship of Senator Sardar Yaqoob Khan Nasir here at the Parliament House on Thursday. The Committee was given briefings by Pakistan Veterinary Medical Council (PVMC), Inter-Board Committee of Chairmen (IBCC) and National Academy of Performing Arts (NAPA). The Committee was told that PVMC is a parallel body like Pakistan Medical and Dental Council (PMDC) and does the same tasks for veterinary doctors as PMDC does



for medical doctors and dentists. The Committee was told that currently there are 2,667 veterinary doctors in Khyber Pakhtunkhwa and 916 in Balochistan. PVMC is mainly responsible for issuing licenses for practice of doctors and for accreditation of institutions. The Committee was given a comprehensive briefing on the role and working of IBCC. It was told that the

IBCC in coordination with Ministry of Foreign Affairs is in the process of entering an agreement as a result of which IBCC certification will be enough for students abroad and no further verification will be needed in 115 countries. The Committee was given details of the membership of the board of IBCC and was told that the boards of Islamabad, Balochistan, Gilgit Baltistan and

Azad Jammu and Kashmir are represented as one group board in the IBCC and the other three boards have their individual representation due to large number of education boards.

The Committee was told that NAPA has an annual budget of 9 crores, 90 lacs and has so far produced around 200 people in different categories of performing arts. It was told that NAPA not only produces artists through extensive teaching and practicing exercised but also works on soft engagement of artists and communities. The Committee strongly recommended regional offices of NAPA in all provinces because only one office in Karachi is not enough to properly engage all traditional.

GOVERNMENT RUNS 7 MEGA PROJECTS FOR IMPROVEMENT OF LIVESTOCK SECTOR IN BALOCHISTAN

Quetta: Balochistan government is utilizing all available resources for promotion of livestock sector in the province and seven mega projects for improvement of livestock are being executed at a cost of 860 million rupees.

According to the official sources two point eight billion rupees have been allocated in the current fiscal year for livestock sector.

"They said seven mega projects for improvement of livestock are being executed at a cost of 860 million



rupees. Similarly, veterinary services in twenty various districts of the province would be provided at a cost of 108 million rupees." Sources added.

The sources said that more than 78 million rupees have

been allocated for provision of treatment of various diseases of animals in Balochistan.

In the recent media talk the official of Provincial Livestock Department also added that veterinary hospitals

were being constructed in various areas of the province at a cost of 500 million rupees to make province self-sufficient in production of meat and dairy products. Officials maintained that construction of a research center for dairy development in Bela area of Lasbela district was in progress at a cost of more than 63 million rupees and construction of a camel research cum camel milk processing unit in Washuk District was also being carried out at a cost of 50 million rupees.

UVAS TO ESTABLISH RADIO STATION TO UPLIFT AGRICULTURE SECTOR

The agriculture and livestock sector in Pakistan needs to uplift. Keeping in mind, the University of Veterinary and Animal Sciences (UVAS) Lahore has decided to set up its own radio station to educate 30 million farmers and employees of livestock in Punjab.

Demand for livestock products will continue to increase as incomes and human population continues to grow. This sector growth needs to be accommodated in a context of finite natural resources, contribute to livelihoods and long-term food security, and respond to climate change.

Vice Chancellor of the UVAS Prof Dr Talat Naseer Pasha addressed the feasibility report of the radio station had been prepared and sent to the planning commission for its approval.

The University of Veterinary and Animal Sciences (UVAS) vice chancellor



alleged the cost of the proposed radio station would be PKR 4 million including the cost of the broadcasting equipments. The station would be operational in the current fiscal year 2018-19 at its Pattoki Campus.

In the first phase, the station would cater the farmers of the central Punjab and after

its successful service its frequency would be increased to the whole province of Punjab within two years. He elaborated that the station would broadcast programmes of professional experts of the varsity for the guidance of farmers and other people belonging to livestock to revamp the cultivation, farming process and enhance the per acre yield of crops and production of milk.

Agriculture sector contributes 22 percent of the total GDP of the country while livestock have 58.6 percent share in agriculture sector GDP. With the help of radio station such programmes would be broadcast through which awareness from lethal diseases like foot and mouth of animals would be created among the farmers.

The radio station would help uplift agriculture and livestock sectors in the province to prosper the nation globally.

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SINDH GOVT TO ANNOUNCE AGRICULTURE POLICY 2018-2030

Sindh Minister Muhammad Ismail Rahoo for Agriculture, Supply and Prices alleged that in a little while government will announce Sindh Agriculture Policy for the promotion of agri-farming in the Province for healthier yield.

Sindh Agriculture Policy 2018-2030 the recommendations of all pertinent stakeholders would be incorporated into the policy to make it comprehensive and target oriented. Modern farming was need of time for getting healthier yield and improving food security. In this regard the Chinese model would be followed and Chinese experts' cooperation would be required.

The agriculture policy would be in power till 2030 and would be in keeping with the Sustainable Development Goals. However, the various legal, regulatory, institutional and expenditure-related changes set out in the policy will be implemented over a period



of time.

The Sindh agriculture policy also aims to improve legislation, regulations, labelling and quality oversight in the market for inputs, particularly for seeds, fertilizers, pesticides, animal feed and veterinary medicines, as well as implement a certification system for organic crop, livestock and fishery products.

Sowing of vegetables and

fruits and other cash crops would be encouraged in addition to major crops like wheat, rice, cotton and sugar cane. Mobile application introduced for the guidance of growers and farmers for a better and enhanced yield.

Sindh agriculture policy meeting was attended by Secretary Agriculture Agha Zaheeruddin, representatives of World Bank, Food

and Agriculture Organization, Sindh Abadgar Board, Whole Seller & Exporters officers of agriculture, forest and wild life, livestock & fisheries, commerce, finance and planning & development department.

Agriculture policy better yield will benefit to get value added growth in the agriculture sector for both domestic and export markets, accomplish food security and to raise overall rates of economic growth for the benefit of all sections of the society.

The agriculture sector needs to grow for reducing poverty and reaching the growth targets of for the national economy of Pakistan.

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BODY LANGUAGE OF DOGS

BY TALIA JAMIL

(DVM Student, Faculty of Veterinary Science, University of Agriculture, Faisalabad)



2. Playful (Play Bow)
 - Mouth open and relaxed, tongue exposed
 - Ear up
 - Pupil dilated
 - Tail up and wagging
 - Front end down, elbows touching floor
 - Hind end up

Millions of people round the world are keeping canines as pets, watch dogs, crime investigation units, bomb disposal squads, companion animals, hunting dogs and much more. It is important to know the body language of your pet. In case of canines, knowing the details of body language is significant for both pet owners and handlers as it helps us understand and predict the canine behavioral patterns. Some of the most important body language domains have been defined in this article.

1. Relaxed
 - Slightly open mouth
 - Relaxed body
 - Ear up
 - Head up
 - Tail relaxed and wagging
 - Weight over all feet
 - Eyes soft, pupil moderately dilated



4. Alert
 - Ears forward
 - Mouth closed
 - Eyes wide, direct contact
 - Stiff body
 - Weight forward
 - Tail up



5. Fearful
 - Ears back
 - Whale eye
 - Pulled back corner of mouth
 - Raised paw
 - Weight backward
 - Tail tucked



6. Aggressive
 - Ear forward
 - Nose wrinkled
 - Direct eye contact
 - Visible teeth
 - Open mouth
 - Body slight forward
 - Tail up and bristled



PAKISTAN NEEDS SPECIAL SLAUGHTER HOUSES, REFERENCE LABORATORIES AND CONTAINMENT VEHICLES TO SAFEGUARD ITS ENVIRONMENT

M. Tariq Javed, Muhammad Tahir Sarfaraz, Narmeen Tariq, Zain ul Abideen, Shaza Zarnab and Irum Hina
Department of Pathology, Faculty of Veterinary Science, University of Agriculture Faisalabad.

A slaughter house is a facility, where animals are slaughtered for consumption as food products. In Pakistan, there are legal (authorized) and supposedly illegal (unauthorized) slaughter houses located both inside and outside the different cities and towns. All the major cities have central slaughter houses mostly dating back to the British period (>70 years old). Most of them are creating enormous hygienic and environmental problems, because they are without adequate necessities like water supply, proper sewerage, proper flooring, ventilation, lairage, transport, cold storage, etc. The slaughter house waste, just like other waste material proves more harmful for environment and humans if proper precautionary measures are not adopted. To take hygienic measures, slaughter houses should use huge amount of water for operations, this will ultimately produce huge volume of wastewater. The main environmental problem related to wastewater from slaughter house is total matter in solid state and there is bad smell produced from it (Gauri, 2006). By products in slaughter house mainly contain solids (stomach contents, carcass, bony byproducts, intestinal byproducts etc.).



Water bodies like canals, rivers and streams are mostly receiving wastewater from slaughter house. Increased level of toxins may be accumulated if the waste water containing feces and blood are not properly discharged into main streams (Akindi, 2011). In many countries like Pakistan these waste products are discarded into the main stream and water from same source is then used to wash the slaughtered meat (Adelegan, 2002). In slaughter houses, where all operations are conducted properly and how waste water, unwanted offal, feces and blood are discharged, affects the environment and residents at huge scale (Regina and Duzokoto, 2017). In a rough estimation a buffalo has the body weight of 500 kg then approximately 25% of whole body weight is not in any utilization. Total blood production is estimated to be about 9-11 L. Personal observations suggests that for the byproduct of slaughter house, there is no system for their proper disposal and treatment. Especially the solid byproducts are being dumped and thrown in free area. The liquid byproducts are thrown into the small drain usually called nallas surrounding slaughtering area. Lastly, whole water comprising blood and byproducts is going into the main drain after lacking treatment. In private sector, there are some modern slaughter houses, but they are also lacking international standards as for disposal is concerned. Modern slaughter houses must be free of pathogen. Screening tests should be done before slaughter, declaring the animal disease free and fit for human consumption, which is lacking at most part. Apart, there are no special slaughterhouses in Pakistan, where animals having zoonotic diseases or other highly contagious and serious diseases are dealt. This is again a need of the time and we must have such slaughterhouses where only diseased animals should be slaughtered and all the personnel working in these slaughterhouses have to be vaccinated and trained properly. These should be built away from main cities and human population in isolated areas of the country. The disposal of animals or byproducts should be linked with specialized areas like incinerator facility, chemical treatment unit, dumping unit, etc. Then there is need to reference laboratory network in the country, for which there has already been written a lot. The reference laboratory should also have link with these special slaughterhouses and should collect sample and recommend animals for slaughter in these special slaughterhouses. There is a great need of containment vehicles for transportation of animals, especially those identified with highly dangerous transboundary diseases or zoonotic diseases. These vehicles are present in other countries but not in Pakistan. We need to have these vehicle for transportation of animals. We also need specialized well-equipped vehicles for transportation of healthy animals from farm to slaughterhouse. These vehicles will help in having the increase in production and quality of meat. These specialized transportation vehicles are different from those containment vehicles. The containment vehicles are highly specialized and will help in containment of infectious substance during transportation. Pakistan has now to look for these things to safeguard its environment, animals and humans.

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FOOD FOR THOUGHT!

HUZAIMA BUKHARI AND DR IKRAMUL HAQ



WAGES OF APPEASEMENT

Any government deviating from rule of law and showing apathy towards the have-nots is bound to fail.

We have a long and painful history of State's patronage of corrupt practices, tax evasion, money power, and protection of forces of obscurantism that have been thriving on hatred, bigotry, militancy, intolerance and terrorism. Undoubtedly, what we are facing today in the corridors of power and on the streets are wages of the State's policy of appeasement towards the corrupt and religious fanatics. Even after seven decades of independence, the State is captive in the hands of those who nakedly and blatantly abuse power for self-aggrandizement considering themselves as above law. Any government deviating from rule of law and showing apathy towards the have-nots is bound to fail. Corrupt politicians, devious civil-military bureaucrats and unscrupulous businessmen have mercilessly looted the country's resources and stashed huge wealth abroad unfortunately, the Supreme Court in a suo moto case fell short of exposing nexus of dual nationality and flight of money abroad. The majority of parliamentarians lie on oath that their only source of income is "salary" the lavish living standard they enjoy openly contradicts it. Many of them concealed dual citizenship dual nationality and Supreme Court disqualified some of them many others may meet the same fate in the coming days. The military and civil governments throughout our history acted irresponsibly and result is existence of

troopers of various sects resorting to aggressive proselytizing. Ubiquitous armed police, on mosque-protection duties, watch warily from tops of minarets converted into watch towers. Mosques, proliferating more than ever, resemble ancient fortresses with battlements to ward off attack. The loudspeakers thunder hate speeches on full volume in open defiance of law even little is understood because every loudspeaker-equipped mosque is clustered by another across the street with the same decibel count and its own strident mullah. The wages of bigotry are now showing ugliest results where in the name of religion, zealots are killing fellow citizens, especially the minorities. The *finna* (mischief) and *fiisad-fil-ardh* (disorder) having sectarian connotations and attacks on minorities engulfed Pakistan through the 1980s and 1990s. The situation continues in 2000s and going from bad to worse especially after entering into politics of extreme religious groups, openly defying the Constitution of Pakistan, like Tehreek-e-Labbak, Pakistan (TLP), Milli Muslim League (MML) etc. Those at the helm of affairs will have to take emergent and remedial measures, if we have to halt further catastrophe. What the nation witnessed on October 31, 2018 and afterwards was not new. In the past as well, on many occasions, there was a message warning that "tomorrow a protest has been planned

by religious zealots, so please try not to venture outdoors. It will not be safe". How long will people ask their offspring, friends and relatives prior to such protests to remain at home, especially when issue is that of what the protestors claim to be of defending the "Faith"? How long will we close schools out of fear? The most apt warning about such self-styled custodians of "Faith" has been given in the holy Quran: *When they are asked to refrain from spreading 'fiisad' (disorder) on the Earth, they retort audaciously: "We do not spread 'fiisad' (disorder); rather we are the musleheneen (reformers). Beware of them! Unquestionably, they are the musleheneen (troublemakers) but pose as musleheneen* Al-Quran, Surah Al-Baqarah (the Cow) 2:11 & 12. While a majority of urbanites and town dwellers remain indoors on such occasions, the question is who are the ones we see on the roads? How come thousands of persons equipped with batons and/or arms are out on foot or on vehicles? The next important question is how can they lockdown the cities and towns? Why do they act like hooligans, aggressively and destructively? Why cannot they wage their protest peacefully without disrupting law and order? Why do their leaders indulge in sedition and provoke others to attack institutions and destroy private properties? Many of their ghastly acts attract Chapter VI of the Pakistan Penal Code, 1860 contain-

ing provisions *inter alia* dealing with conspiracies against the State. Where is the writ of the State? Premier Imran Khan issued timely warning to the miscreants in his address to the nation on October 31, 2018 it is high time that the State and all major (non-religious) political parties should stand firmly and give up policies of appeasement towards fanatics and miscreants. The loudspeakers thunder hate speeches on full volume in open defiance of law even little is understood because every loudspeaker-equipped mosque is clustered by another across the street with the same decibel count and its own strident mullah. Due to wrong policies of Ziaul Haq and his cronies, the entire nation became hostage to religious bigots. It is time for the State to give up criminal negligence in protecting lives and properties of the citizens. The deeper issue is that of failure to provide basic facilities like housing, clean drinking water, health, education etc. the core reason for hijacking of the innocent by the clergy. The Prime Minister must concentrate on this aspect and also purge his party from elements like Azam Swati et al who are engaged in undesirable practices and have been patronizing the fanatics. The most fundamental issue is of education. Look at *deeni madrasas*, providing food, shelter, education and clothing to about 243,906 students (204,067 male and 39,839 females), representing

ing poorest of the poor. If the State cannot provide even primary education to all the children Article 25A of the Constitution says: "The State shall provide free and compulsory education to all children of the age of five to sixteen years in such manner as may be determined by law" the vacuum has to be filled by someone. After inserting Article 25A, vide 18th Constitutional Amendment in 2010, both the federal and provincial governments have gone to sleep and neither have as yet ensured uniform and free education for all children up to high school. The madrasas in the name of religion get hefty donations from the rich who do not pay due taxes, while the State merely acts like a silent spectator has failed to collect taxes from the rich, is least pushed to carrying out its duty of providing health, education, security to its citizens and ensuring many fundamental rights guaranteed in the Constitution. Resultantly, the State is in perpetual chaos. Any hope for a positive change in the near future appears bleak as the ruling classes and clergy has common interests of keeping the masses poor and ignorant so that their control remains unchallenged. The writer, Advocate Supreme Court, is Adjunct Faculty at Lahore University of Management Sciences (LUMS). Email: ikram@huzaimabukhari.com Twitter: @drIkramulHaq Published in Daily Times www.facebook.com/VetNewsViews

ENTANGLED DOLPHINS RELEASED BACK INTO SEA



Karachi: Two dolphins incidentally caught by fishermen recently were released safely back into the sea, the World Wide Fund for Nature Pakistan (WWF-P) reported on Wednesday.

In the first instance, according to the organisation, a two metre long pantropical spotted dolphin, named *nushak* in Balochi and *gokin* in Sindhi, got entangled in the gillnet being used by fishermen operating in the Indus Canyon about 176km southeast of Karachi last Tuesday. Fishermen led by Ameer Badshah, captain of a tuna fishing boat, safely released the dolphin back into the sea.

In the second instance, Ghulam Mustafa, Ghulam Sarwar, Ghulam Mustafa helped by Abdul Qayyum released a 1.5-metre long Indian Ocean humpback dolphin, which was entangled in their gillnet while they fished along Balochistan's coast on Sunday. The International Union for Conservation of Nature (IUCN) lists the Indian Ocean humpback dolphin as endangered and pantropical spotted dolphin as "least concern". However, population of the pantropical spotted dolphin in the Southeast Asian region is listed in the Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals. "Numbers of pantropical spotted dolphin is believed to have declined in Pakistan. They are easily entangled in fishing nets laid in the coastal and offshore waters," said Mohammad Moazzam Khan, technical adviser on fisheries resources at WWF-P. Pantropical spotted dolphins, he said, were found in all temperate and tropical oceans and considered to be very active in making large, splashy leaps in the sea.

Elaborating on threats to dolphins, he said that once entangled, most dolphins drowned and died immediately, though in some cases, entangled dolphins did survive onboard fishing vessels, he added. Sharing some estimates, he said that dolphin mortality in the gillnet fisheries was estimated to be as high as 12,000 annually a few years back.

To address this concern, he pointed out, the WWF-P created awareness among fishing communities and trained fishermen on the use of subsurface gillnet in offshore waters and how to release endangered marine species from fishing nets. "This has led to a significant decrease in dolphin mortality and we now estimate that only about 30 to 40 dolphins die annually as a result of these operations," he said, adding that there were about 8,700 gillnet vessels operating in the coastal and offshore waters out of which around 700 fish in offshore waters.

Dr Babar Khan, regional director (Sindh and Balochistan) at WWF-P, said that the organisation had developed an action plan to protect cetaceans in 2013 which was endorsed by all major stakeholders. "There is a need to adopt and implement this action plan, which will ensure protection of cetaceans including dolphins, porpoises and whales in Pakistan's waters," he said. It might be recalled that dolphins are now protected under Sindh and Balochistan fisheries laws as well as under Balochistan (Wildlife Protection, Preservation, Conservation and Management) Act, 2014.

USING EGGS IN FIGHT AGAINST HUNGER AND MALNUTRITION

Egg and nutrition leaders have written to the Food and Agriculture Organisation (FAO), highlighting the key role eggs have in the fight against hunger and malnutrition in the developing world.

Tim Lambert, International Egg Commission chairman, and Dr Saul Morris of the Global Alliance for Improved Nutrition, said in a forum post that the egg seems increasingly likely to offer a practical and impactful opportunity to tackle problems of under-nutrition, which is leading to more than a third of children left stunted in parts of Africa and south Asia.

They highlighted a special supplement produced by the Maternal and Child Nutrition journal, released last month, which looks at a wealth of information on the value of eggs and feasible ways of increasing access.

Eggs' role in the diet, child dietary diversity, eggshells for calcium

Among the papers is an overview of the role of eggs in the diet of maternal and child nutrition, there is also updated data on egg consumption, while the second summarizes how social marketing was used in a randomised controlled trial of eggs early in the complementary feeding period to foster high compliance, as well as empowerment of participants and policy change in Ecuador.

The third and fourth papers examine how a controlled intervention to foster poultry production affected child dietary diversity and nutritional status in Ghana and Zambia, while the fifth study reviews success and lessons learned from a project on small-scale poultry production to increase egg production and household egg intake in four diverse African regions.

A novel approach to use chicken eggshells to improve dietary calcium intake in



rural sub-Saharan Africa is reported in the sixth paper, while the seventh reports on business models for poultry production in East Africa. Others look at how universal access to eggs might be achieved through large-scale poultry production.

Protein

The pair say in their note: "The humble egg seems increasingly likely to offer a practical and impactful opportunity to tackle these problems. Eggs are almost pure protein, of very high quality. They also provide virtually the entire Adequate Intake, for young children, of vitamin B12 and choline."

"The essential fatty acid content of eggs may be especially important in pregnancy. Nearly the whole world with the notable exception of the vegetarian belt of India likes to eat eggs, and they can be produced at prices which make them accessible even to the moderately poor."

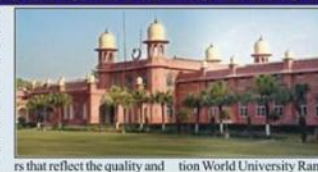
In the discussion forum, they pose a range of questions around striking the right balance between small-scale production, large-scale production and long-distance trade; different ways to increase demand for eggs, mitigating the associated animal welfare and carbon emission issues and what

do to encourage stakeholders to accelerate access to eggs in poor communities. Among some of the forum responses was one from Teopista Mutes, from the FAO Rwanda office, who said that as a communications officer in the field where the FAO had implemented a poultry project, he had heard some amazing testimonies "of families with malnourished children who have been fed on eggs and the results have been impressive."

Wilma Freire Zaldumbide, of the University of San Francisco de Quito, Ecuador, added that it was important to involve people in the solution of their own problems: "There will always be a gap to bridge. Promoting egg consumption can foster people's participation in the market whilst improving family diets. To do this, other fields related to social organisation, empowerment or self-sustainability need to be incorporated to allow people to adopt their own solutions." Helene Delisle, from the University of Montreal, Canada, added that eggs are among the taboo foods for children and pregnant women in several African cultures but these could be overcome through education."

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Faisalabad: The University of Agriculture, Faisalabad (UAF) has made it to top 1000 universities of the world on the basis of overall academic performance conducted by University Ranking by Academic Performance (URAP) World University Ranking, Turkey for the year 2018-19.



Out of 2500 Universities of the world, URAP has placed UAF at 986th position globally and rated it at 277th after evaluating 955 universities of Asia. The ranking indicators for URAP are citation, total documents, article impact total, citation impact total, and international collaboration. The main objective of the URAP is to develop a ranking system for the world universities based on academic performance indicators that reflect the quality and the quantity of their scholarly publications. URAP has been annually releasing the World Ranking of Higher Education Institutions since 2010, and Field Ranking since 2011. The University of Agriculture, Faisalabad (UAF) is participating in National/International World Universities Rankings and Awards since 2011 including Shanghai University Ranking, QS World University Rankings, Times Higher Education World University Rankings, National Taiwan World University Ranking, UI Green Metric World University Ranking, Information Technology Ranking (ITUR), HEC Ranking, Islamic Development Bank Award (Saudi Arabia) and got prominent positions and even improved its scores year after year. Earlier, according to QS World University Ranking, the UAF has emerged as the only University of the country who made its space in top 100 universities of the world in any subject category. In the subject category of Agriculture & Forestry, out of 300 world universities, it secured its place at 85th position in 2018. As per Shanghai Global Ranking of Academic Subjects 2017, UAF out of 500 universities has made it to the top 130 universities of the world in agriculture sciences. The Times Higher Education World University Ranking 2019 has declared UAF 805th best among 1250 Universities of the world in Agriculture & Forestry. The UAF, out of 500 Global Universities has been ranked 73rd best Universities of the world in agriculture sciences by National Taiwan University Ranking 2018.

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FAO TO RELEASE RESEARCH FINDINGS TO ENCOUNTER SMOG

Food and Agriculture Organization of the United Nations (FAO) under its project Remote Sensing for Spatio-Temporal Mapping of Smog (R-SMOG) has completed a first of its kind evidence based geospatial research which will contribute to findings on emissions and drivers of smog.

Smog causative towards spreading various health issues that can be encountered during these environmental hazard. The experts suggested a number of preventative measures which could be helpful in dealing with smog and its resulting health hazards.



weather conditions also help these pollutants suspend in the lower atmosphere because of the pollutants form a dense visible layer of smog. One of the smog component brick kilns are recognized as one of the largest stationary sources of black carbon, and along with iron and steel production. A traditional brick kiln operating will have likely noticed billowing black smoke spewing from its chimney and that smoke is breathed in by workers and nearby communities which becomes the serious health hazards.

Pakistan suffered one of the highest death tolls in the world from air pollution. Thousands lost their lives because of the high level of fine particles in the air. Toxic smog engulfs several cities in Punjab province particularly Lahore during the winter months and has evolved into a public health and economic emergency. The research findings to be released later this month in Lahore were reviewed by the Food and Agriculture Organization global technical experts on information with a geographical component, methods and tools and

were validated by a wide array of Pakistani experts and institutions. Welcoming participants at the workshop to validate the study key findings with representatives of the Ministry of Climate Change and Punjab department of agriculture, Minā Dowlati, Food and Agriculture Organization representative in Pakistan alleged that they remain committed to support government efforts to help devise appropriate strategies and action plans to tackle smog in Pakistan. The findings of R-SMOG study provide scientific evidence of the causes of

smog, and the relationship between smog and crop residue burning. Study will be instrumental in helping reduce the contribution of the agriculture sector towards the formation of Smog. Smog is one of the several forms of air pollutants that cause harm to human functioning. It is normally a combination of several types of pollutants (nitrogen oxides, Sulphur oxides, aerosols, smoke or particulates, etc.) with fog. Formation of smog, however, is not dependent only on the presence or increase of these pollutants, but certain meteorological and

Mr Sukhara said pairing of animals was also being expedited and the zoo had chalked out a comprehensive plan to meet the pairing deficiency by December. He said Wildlife, Forest and Fisheries Secretary retired Capt Muhammad Asif had visited the zoo on Monday

LAUNCH OF VET HOSPITAL AT ZOO NEXT MONTH

BY SHOAB AHMED

Lahore: The Lahore zoo will inaugurate a veterinary hospital, operating theatre and intensive care unit (ICU) catering to all zoos and wildlife parks managed by the wildlife department across Punjab in the first week of December, zoo Director Hassan Ali Sukhara told.



nos, hippos and chimpanzees by December. The secretary was told that the zoo had recently added white lion, white Bengal tiger, a trio each of llama, guanaco and wallaby. He also said that exchange programmes with other zoos and wildlife parks of Punjab were also being processed and hopefully the Lahore zoo would complete pairing of its animals as early as possible. Animal pairing was a crucial issue the wildlife department was faced with in all its parks and zoos. Lahore zoo contained a large number of birds and animals that had not been paired.

and directed the staff to complete all the necessary arrangements for a grand launch of the vet hospital that would consist of a diagnostic lab, quarantine area for sick animals, ICU and an operating theatre. This state-of-the-art facility would benefit zoos and wildlife parks all over Punjab.

An android application would be launched to monitor the health of the animals, while their pedigree and mortality record would also be maintained online. Mr Sukhara said the secretary also directed them to expedite work on pairing of animals that included procurement of elephants, rhinos, hippos and chimpanzees by December. The secretary was told that the zoo had recently added white lion, white Bengal tiger, a trio each of llama, guanaco and wallaby. He also said that exchange programmes with other zoos and wildlife parks of Punjab were also being processed and hopefully the Lahore zoo would complete pairing of its animals as early as possible. Animal pairing was a crucial issue the wildlife department was faced with in all its parks and zoos. Lahore zoo contained a large number of birds and animals that had not been paired.

Species of animals, an international treaty of which Pakistan is a signatory. The official said the trophy hunting fee was only Rs4 million in early 90s, but the price increased three times since then, thereby increasing interest of the community in the conservation work.

PAKISTAN'S HORTICULTURE EXPORTS TO CHINA HAVE POTENTIAL TO REACH \$1B

BY BILAL HUSSAIN

Karachi: All Pakistan Fruit and Vegetable Exporters, Importers and Merchants Association (PFVA) has extended recommendations to the government regarding the horticulture sector ahead of the prime minister's visit to China. PFVA Patron-in-Chief Wahed Ahmed said that the sector's exports to China have the potential to reach \$1 billion.



the two countries under the Belt and Road Initiative (BRI). Pakistan can export fruits, vegetables and value added products worth \$1 billion to China in the next five years. Using BRI roads and ports infrastructure, which could help widen Pakistan's access to new markets, the sector has estimated exports skyrocketing to \$2.5 billion within five years. A research-based proposal has been prepared with assistance from China. According to Ahmed, the development of this proposal will steer technology transfer from China to Pakistan in the sector under consideration. Ahmed emphasized joint bilateral collaboration of private sectors for treatment of agriculture-related diseases. Provision of quarantine facilities in the special economic zones for the purpose of raising horticulture trade with the South Asian giant has also been suggested. "An opinion has also surfaced to inculcate awareness about Chinese quarantine regulations and export model among Pakistani exporters," the PFVA official stressed. "To ensure speedy clearance of trade cargo at Pakistani sea ports, assistance from the Chinese authorities has been sought so that the perishable cargo can effectively be transferred with minimal delay from sea ports to the vessels and go-downs."

Adviser to Prime Minister on Commerce Abdul Razak Dawood has reached out to different industries and gathered input from stakeholders for their improved performance and enhanced exports. Ahmed, who also happens to be Vice President of Federation of Pakistan Chambers of Commerce and Industry (FPCCI), said that

the government, through the adviser, has expressed interest to identify ways for promotion of Pakistan's fruits and vegetables. "During his visit to the FPCCI, he informed that prime minister will be visiting China and requested for input and market access of fruits and vegetables to China," said Ahmed. Ahmed added that a comprehensive document of proposal including the fruit and

vegetable sector has been submitted to the adviser for further discussion by the PM during his visit. "I have been contacted by the adviser's office following our proposal submission," Ahmed appreciated. "The government seems serious and I am hopeful that it will move in the right direction." According to the vice president, there exist bright chances for enhancement of horticulture trade between

the two countries under the Belt and Road Initiative (BRI). Pakistan can export fruits, vegetables and value added products worth \$1 billion to China in the next five years. Using BRI roads and ports infrastructure, which could help widen Pakistan's access to new markets, the sector has estimated exports skyrocketing to \$2.5 billion within five years. A research-based proposal has been prepared with assistance from China. According to Ahmed, the development of this proposal will steer technology transfer from China to Pakistan in the sector under consideration. Ahmed emphasized joint bilateral collaboration of private sectors for treatment of agriculture-related diseases. Provision of quarantine facilities in the special economic zones for the purpose of raising horticulture trade with the South Asian giant has also been suggested. "An opinion has also surfaced to inculcate awareness about Chinese quarantine regulations and export model among Pakistani exporters," the PFVA official stressed. "To ensure speedy clearance of trade cargo at Pakistani sea ports, assistance from the Chinese authorities has been sought so that the perishable cargo can effectively be transferred with minimal delay from sea ports to the vessels and go-downs."

MARKHOR TROPHY PERMIT FETCHES HIGHEST EVER FEE

Chitral: The open auction organised by the wildlife department for trophy hunting of Kashmir markhor fetched a whopping Rs12.194 million. A relevant official told on Monday that the two permits for trophy hunting were issued from Toshi game reserve and one in Gahret Gol game reserve to the foreigners who will come here for

hunting in February next year. The official said 80 per cent of the fee would go to the local communities to be utilised on their collective welfare through the elected village conservation committees (VCCs). The wildlife official said due to active participation of VCCs, the population of Kashmir markhor had grown to a comfortable density which had been declared endangered species in Chitral in early 80s, thus communities were involved in the conservation process. He said though different conservancies of Chitral supported hundreds of the trophy size markhors, the number was restrained by the Convention on International Trade in Endangered

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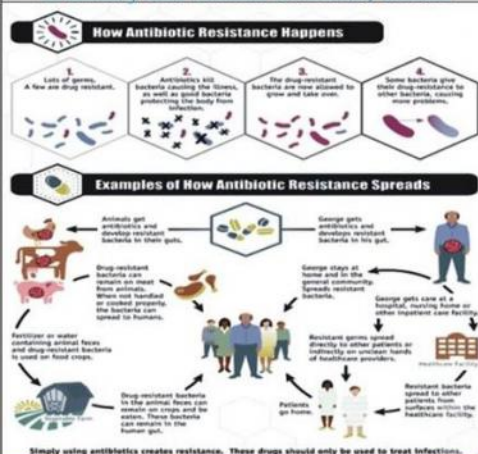
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ANTIMICROBIAL RESISTANCE IN LIVESTOCK INTERLINKED WITH PUBLIC HEALTH; A GLOBAL HEALTH CONCERN

Dr. Hafiz Muhammad Usman Siddiq
Department of Microbiology, University of Veterinary and Animal Sciences, Lahore



Discovery of antimicrobial drugs leads to the development of modern scientific treatment of infectious diseases both in human and veterinary medicine. These antimicrobial drugs bring revolution in conventional methodology of controlling and killing of highly infectious bacteria and other microorganisms. Therefore, it is very important to preserve their effectiveness. Unfortunately, antimicrobial resistance (AMR) has become a major health care problem now a days. The harmful effects of AMR can be observed in both human and animals. A coordinated action is required to combat resistance in both human and veterinary medicine. The whole world is facing a serious consequences of antibiotic resistance especially Asian countries where intensive farming of animals is a common practice. During the last few years, there is rapid development of AMR in the world which urged the veterinarians, medical physicians and environmentalists to arrange a meeting so that the alternatives of this resistance can be discussed. AMR in livestock is interlinked with human population. The environment also plays its role in this scenario. Due to intimate relationship with these three features, the resistance can be easily transmitted. The advancement in study indicates that there are some homologous genes in bacteria which develop resistance. Livestock farm animals are mostly exposed to aggressive use of antibiotics which kills both harmful as well as beneficial microflora. The balance disturbs in the body of animals which provide opportunity to resistance bacteria to flourish and transfer resistance genes to non-pathogenic commensals of body. This leads to development of multi drug resistance bacteria which are a major health concern in future. Since 1950, the use of antibiotics has become a common practice for growth promotion in livestock farm animals. The AMR greatly affects the food chain and animal production setup. The food producing animals are getting enormous amount of antimicrobial drugs and their residues are coming in milk, meat, eggs and other beneficial animal by-products. During grazing in the field, the faeces of these animals contaminate the pasture and other crops. So, the other populations become

MYCOTOXINS: THEIR EFFECT IN BREEDER HENS

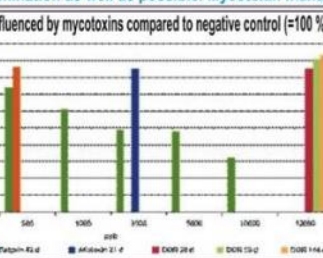
Breeding hens are a valuable asset for the poultry industry, as they produce the hatching eggs and day-old chicks. It is therefore important to manage contamination as well as possible. Mycotoxin management is part of that.

In the production of hatching eggs and day-old chicks, the selection of raw materials with high nutritional quality and safety is the common practice. Mycotoxins are an undesired factor in any feed formulated for animals in production and reproduction, but often, it is inevitable to have certain levels of contamination. The presence of mycotoxins in breeding bird rations does not always lead to visible symptoms, such as trichothecenes causing oral lesions. However, it may influence productivity, egg quality, hatchery performance, as well as chick quality and immunity. Mycotoxins exert toxic effects mainly on the gastrointestinal tract, liver, and kidneys and can accumulate in some tissues but also in the eggs.



Mycotoxins can negatively affect eggshell quality and as a consequence embryonic mortality.

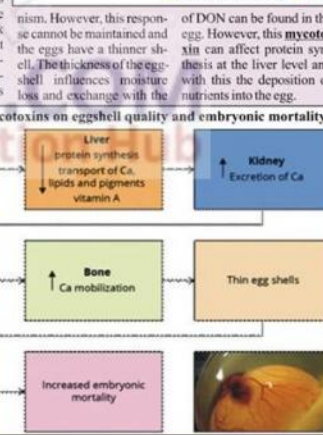
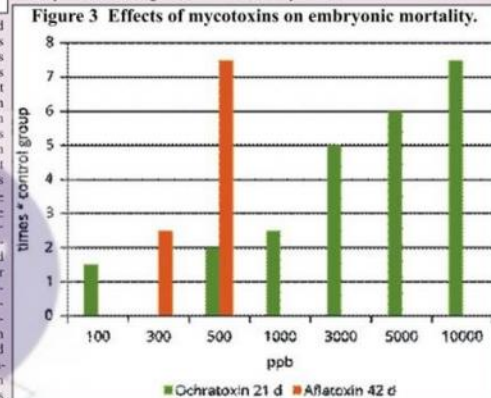
Egg production
Mycotoxins in hens can cause reduced egg production. As can be seen in Figure 1, the levels at which these effects can be observed are as low as 100ppb in feed, for example with a 21 day exposure to ochratoxin. By increasing the level of the toxin, production further decreases. A similar effect is obtained by exposing birds to aflatoxin. In contrast, DON levels that affect productivity in breeding hens are high and infrequent in grains and by-products. Under experimental conditions, more than 10,000ppb of DON and a 28-day exposure are needed to adversely affect productivity. By increasing the exposure time (DON from 56 to 144 days) a recovery of egg production can be observed. This recovery can be explained by feed intake behaviour of the animals: low at the beginning of the DON exposure and increasing afterwards. The most likely mechanism for the reduction of egg production is the decrease in protein synthesis. A lower synthesis of albumin is the result of a degeneration of the liver tissue caused by ochratoxin, T2, and DON. The livers then may look pale, friable and occasionally with superficial haemorrhages. Egg production is not the first parameter affected by mycotoxins in breeding hens. Parameters such as embryonic mortality and hatchability can be influenced before and even more than egg production and also without it being affected.



Eggshell quality and embryonic mortality
The eggshell is important to protect the progeny. Thin and fragile shells can increase embryonic mortality and decrease hatchability as well as weight gain of the embryo. Calcium is important for the construction of the eggshell as well as chick immunity. When the liver function is impaired, the internal and external quality of the egg declines, which, in the end, affects the production of day old chicks. Figure 2 illustrates the possible ways how mycotoxins can negatively affect eggshell quality and as a consequence embryonic mortality. If intestinal integrity is compromised, the utilisation of nutrients decreases. Liver and kidney damage leads to a less availability of calcium and other nutrients necessary for egg formation. Birds' calcium levels in plasma then are lower and a greater mobilisation of calcium from the bones is the possible response from the organism during the incubation period. An optimal egg-shell quality will not allow the loss of nutrients and will also prevent bacterial contamination as well as embryo mortality. Figure 3 shows the effect of different levels of ochratoxin on embryonic mortality. Incremental levels of ochratoxin or aflatoxin heighten embryonic mortality in a range from 1.5 to 7.5 times the embryonic mortality of a control group. In some cases, embryos are affected even when the hens have received feed contaminated with mycotoxins within the guidelines suggested by the EFSA. For example, 4,900ppb of DON for ten weeks increase the number of embryos with abnormalities. The causes are not clear, as only traces

Effects on the progeny
Ochratoxin and aflatoxin can be transferred into the egg, where they exert toxicity on the embryos. But this not necessarily results in mortality. However, the chicks can suffer from a compromised immune function due to two reasons: lower transmission of antibodies from the hen and lower viability of the chicks' immune cells accompanied with a lower relative weight of the bursa of Fabricius and the thymus. When both aflatoxin and ochratoxin, are present in the feed, the effect on these parameters is synergistic. The final result could be an increased early chick mortality due to a higher incidence of bacterial and viral infections. The transmission of other mycotoxins into the egg is minimal. Therefore the existence of a direct effect on the progeny is unlikely, but an indirect effect via a lower deposition of nutrients must be considered.

Risk management
The best approach to manage mycotoxin risk is to implement an integrated strategy that includes good crop and grain storing practices, regular sampling and mycotoxin analysis. Tools (such as MasterRisk) can



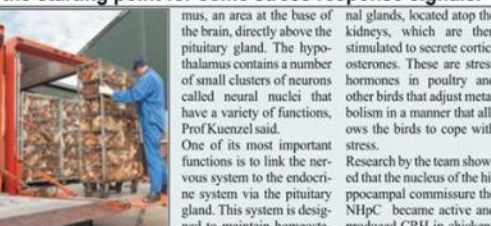
of DON can be found in the egg. However, this mycotoxin can affect protein synthesis at the liver level and with this the deposition of nutrients into the egg. help in providing evaluation of mycotoxin interaction of mycotoxin evaluation and helps in choosing the best strategy to deal with specific mycotoxin challenges. The results of mycotoxin analysis can hence be used to take decisions regarding the inclusion levels of raw materials and choosing products with anti-mycotoxin action. Such products can prevent the passage of mycotoxins into the bloodstream and their contact with the gastrointestinal tract. The additional use of phytomolecules that support the liver function is highly advisable for long living animals as they have additional effects to keep welfare, health and performance. In mycotoxin risk management, prevention is the key for success.

NEW STRUCTURE OF NEURONS IN THE POULTRY BRAIN IDENTIFIED

Scientists at a university in the United States have identified a new structure of neurons in the poultry brain that may be the starting point for some stress response signals.

The neurons are located in the hippocampal commissure, a structure located in the septum, a brain region directly above the hypothalamus. The team, led by Professor Wayne Kuenzel, a poultry scientist from the University of Arkansas, is investigating the hypothalamo-pituitary-adrenal axis (HPA axis) one of at least four major neuroendocrine systems regulating vertebrate physiology and behaviour. Prof Kuenzel said the HPA axis is a complex signalling pathway from the brain to the adrenal glands that controls how chickens respond to stress. The communication flow goes both ways with negative and positive feedbacks. Stress during

mus, an area at the base of the brain, directly above the pituitary gland. The hypothalamus contains a number of small clusters of neurons called neural nuclei that have a variety of functions, Prof Kuenzel said. One of its most important functions is to link the nervous system to the endocrine system via the pituitary gland. This system is designed to maintain homeostasis a tendency toward equilibrium among a body's systems. In response to stress, the hypothalamus releases corticotropin-releasing hormone, or CRH, that stimulates the anterior pituitary gland, located just beneath the brain, to secrete a hormone called ACTH. It travels via the bloodstream to the adrenal glands, located atop the kidneys, which are then stimulated to secrete corticosterones. These are stress hormones in poultry and other birds that adjust metabolism in a manner that allows the birds to cope with stress. Research by the team showed that the nucleus of the hippocampal commissure the NHPc became active and produced CRH in chickens that were stressed by short-term restriction of food. These neurons responded prior to the major group of CRH neurons in the HPA axis and researchers believe the newly discovered cluster of neurons may be part of the classical HPA chain of neuroendocrine activity that triggers the birds' stress response.



One common example of poultry stress is transportation

transportation
One common example of poultry stress is transportation as chickens are moved from hatcheries to poultry production houses and then on to food processing plants. Stress during these periods can have negative effects on meat quality. He added that a better understanding of the stress response pathways could help discover ways to alleviate such physiological stressors, which would in turn improve poultry welfare, health and may enhance meat quality. The current understanding of stress response is that it all begins in the hypothalamus.