









زرعی یونیورسٹی فیصل آباد میں شعبہ فارمیسی قائم کرنے کی منظوری دیدی گئی

27 اکتوبر کو برصغیر کے وائس چانسلر ڈی زمر ودرات ایچ اے پی سی کے ریفیڈریشن کمیٹی کے ایگ عمارت کی مجلس جمہوریہ، پاکستان فارسی کونسل کی شرکاء کی طرف سے کی گئی۔

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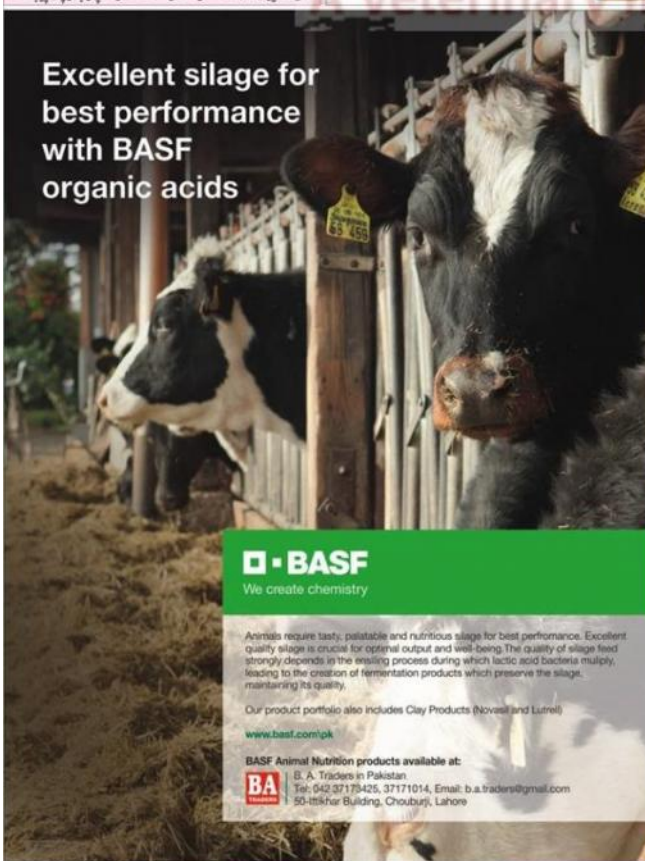


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### High Quality - Our Strength



## UVAS ARRANGES CONDOLENCE REFERENCE, PAYS RICH TRIBUTE TO EX-PRINCIPAL CVS CAPT (R) DR MUHAMMAD ASHFAQ

Lahore: The University of Veterinary and Animal Sciences Lahore arranged a condolence reference here Monday in memory of ex-Principal of the College of Veterinary Science (CVS) Lahore Capt (R) Dr Muhammad Ashfaq. Dr Ashfaq remained two time principal CVS in 1965-66 and 1970-72. He was the eldest alumnus of UVAS. He was born on 1st November, 1918 and has served the country and veterinary profession in different positions. Vice-Chancellor Prof. Dr Talat Nasser Pasha chaired the reference in which family members of the late Capt (R) Dr Muhammad Ashfaq including his sons Muhammad Tariq Ashfaq, Dr Muhammad Khalid Ashfaq, Dr Muhammad Tahir Ashfaq and a number of UVAS sen-



ior alumnus members, faculty members from various departments participated. They prayed for eternal peace of the departed soul and paid rich tribute to Dr Ashfaq for his services for the uplift of veterinary profession not only in Pakistan army but also in Food and Agriculture Organization (FAO) and different part of world. In his life he also worked for the promotion of

education and re-search especially for development of livestock sector and also for Islam through preaching. Speaking on the occasion, Former UVAS Vice-Chancellor Prof. Dr Manzoor Qureshi lauded services of Dr Ashfaq for the establishment of animal reproduction center. He said he had always been working with dedication, on merit and had never compromised on

it. Dr Muhammad Khalid Ashfaq shared his memories about the life of his father. Earlier Dr Muhammad Ashfaq delivered a lecture to UVAS students on the topic of Natural Products Hepatotoxicity and Prevention. VC Prof. Pasha said Dr Ashfaq was also the teacher of his father the late Dr Miran Nasser Ahmad Saleem. He said Dr Ashfaq used to always participate in various UVAS activities like convocation, annual alumni dinners and many get-togethers. The Vice-Chancellor expressed deep sorrow and grief over the sad demise of Dr Ashfaq and prayed for his soul and sympathized with bereaved family. UVAS Pro-VC Prof. Dr Masood Rabbani spoke about the biography of Capt (R) Dr Ashfaq.

## US CONSUL GENERAL COLLEEN CRENWELGE ALONG WITH PUBLIC AFFAIRS OFFICER MICHAEL GUINAN AND VICE CHANCELLOR PROF. DR. ZAFAR IQBAL RANDHAWA VISITED THE UAF PARS CAMPUS

US Consul General Colleen Crenwelge along with Public Affairs Officer Michael Guinan and Vice Chancellor Prof. Dr. Zafar Iqbal Randhawa visited the UAF PARS Campus and held meeting with students of English Access Microscholarship Program. They participated in "Action Activity" with boys. Students talked about different selected topics and competed with each other to win the gifts. U.S. Consul General and



Vice Chancellor UAF also distributed prizes among winners of essay competi-

tion on "Poverty Eradication." Later, honorable guests met with the girls and participated in "Spin the Wheel" game. On their turn, US Consul General and Public Affairs Officer talked about "Favorite Food" and "Best Memory", respectively. The winner student of essay competition also presented her thoughts on "Poverty Eradication." The US delegation and VC UAF highly appreciated learning progress of students and efforts of the teachers.

## CLIMATE CHANGES HAD EMERGED THE BIGGEST CHALLENGE THAN TERRORISM AS IT IS PLAYING HAVOC WITH THE LIVES OF BILLIONS INNOCENT PEOPLE

State Minister for Climate Change Zartaj Gul Wazir chairing one-day symposium on battling climate change and water crisis arranged by the Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad

Faisalabad: State Minister for Climate Change Zartaj Gul Wazir said that climate changes had emerged the biggest challenge than terrorism as it is playing havoc with the lives of billions innocent people.



Begum Governor Punjab Perveen Sarwar and State Minister for Climate Change Zartaj Gul call on UAF Vice Chancellor Prof. Dr. Zafar Iqbal at his Chamber

She was chairing one-day symposium on battling climate change and water crisis arranged by the Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad at New Senate Hall. She said that at the time of the inception of the country, per capita water availability was more than 5000 cubic meter which has now declined to less than 1000 cubic meter. She wanted of the worst water crisis by 2025 if tangible steps were not taken. She lamented that last major water reservoir was built in 60s. As per international standards, a country must have the water storage of 1000 days whereas in Pakistan, it was presenting a grim picture of only 30 days storage. She said that now, new dams were being set up that will help address the issue of water storage.

She said that the new government was taking all possible measures to address the issue at the national level. Cleanliness is the half emen. She said that the government had initiated Clean and Green Pakistan project under which ten billions trees will be planted for making environment clean and beautified. She quoted the example of Greek which had produced many intellectuals, and philosophers. The country was full of greenery that sharpened their views and mental health also. She told the participants that the government banned brick kiln for a specific time to plant a tree to save the world from the devastation of climate changes. She viewed that mafias involved in deforestation would be dealt with iron hands. She said that in Dera Ghazi Khan, normally in the summer temperature goes to over 47 centigrade whereas she felt that it was result of inefficient attitude of men of power in the previous regimes as no intention was put on forestation whereas mafias cut down countless trees in the name of development projects.

work as a road towards development and prosperity. Earlier, she called on UAF Vice Chancellor Dr Zafar Iqbal Randhawa at his chamber. Dr Zafar Iqbal said that trees are essential part of healthy environment for a better life. He also lauded the vision and initiatives of the government of the green country with massive plantation. He said that we have to turn the areas especially at the bank of canal lush green. He said that one of the major socioeconomic challenges was the mismanagement of water resources. He said that there is no life without water as the water is a key for irrigation, food security, economic growth, energy production, industries and human health. He said that heavy water was being pumped out from tubewells that are the responsible for lowering down the groundwater level and worsen water health. Perveen Sarwar, Begum Governor Punjab, also attended the meeting.

She lauded the role of UAF for scientifically working on the issue with the help of dynamic scientists and hoped that they will help address the issue.



Begum Governor Punjab Perveen Sarwar, State Minister for Climate Change Zartaj Gul and Vice Chancellor Prof. Dr. Zafar Iqbal offering "Dua" after planting the tree in front of Admin Block University of Agriculture Faisalabad

Director Institute of Soil and Environmental Sciences Dr Javed Akhtar said that the quality of groundwater was deteriorating with each passing month due to heavy pumping, and industrial effluent, causing outbreak of various diseases in the country. Chair Climate Change Center for Advanced Studies in Agriculture and Food Security Dr Ashfaq Chatha said that the climate changes were also responsible for new diseases and reduction in agriculture sector. He said that we have to take the tangible measures and praised the government for a valuable contribution in this regard. Dr Irshad Bibi gave the briefing about the water and climate changes to the audience.

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30 نومبر تک ممبران کی دستبرد میں، جبکہ پلٹری کے متعلق معلومات کے حصول کیلئے

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### دی یوگ ویٹس سوسائٹی کے عہدیداروں نے 27 اکتوبر کو حلف اٹھایا

دی یوگ ویٹس سوسائٹی کے عہدیداروں نے 27 اکتوبر کو حلف اٹھایا

دی یوگ ویٹس سوسائٹی کے عہدیداروں نے 27 اکتوبر کو حلف اٹھایا

### وزیر اعلیٰ پنجاب نے لائیو شاک کی ترقی کے لئے ٹاسک فورس قائم کردی

وزیر اعلیٰ پنجاب نے لائیو شاک کی ترقی کے لئے ٹاسک فورس قائم کردی

وزیر اعلیٰ پنجاب نے لائیو شاک کی ترقی کے لئے ٹاسک فورس قائم کردی

OATH Taking Ceremony 10-2018

Not Failure, but Low Aim is Crime

Activities: Quran lectures, Sports Tournaments, English Workshop, English Talent, Blood Bank, etc.

### پنجاب فوڈ اتھارٹی کی طرف سے پلٹری شاپس کے مالکان کیلئے قواعد وضوابط اپر عمل ضروری ہے

پنجاب فوڈ اتھارٹی کی طرف سے پلٹری شاپس کے مالکان کیلئے قواعد وضوابط اپر عمل ضروری ہے

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The Young Vets Society

Activities: Quran lectures, Sports Tournaments, English Workshop, English Talent, Blood Bank, etc.

### قواعد وضوابط کے متعلق 35 نکات پر ہدایت نامہ جاری صحت مند پنجاب کیلئے حکام کی ہدایت

قواعد وضوابط کے متعلق 35 نکات پر ہدایت نامہ جاری صحت مند پنجاب کیلئے حکام کی ہدایت

قواعد وضوابط کے متعلق 35 نکات پر ہدایت نامہ جاری صحت مند پنجاب کیلئے حکام کی ہدایت

### نیوٹرا من پاؤڈر

جانوروں کی بہترین خوراک اور نمائندہ یاد دہی دینے والے

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#### AVIFLOR-10

Florfenicol ..... 100 mg/ml

AVIFLOR - 1 ml / litre of D/W for 3-5 days.

#### COLISTIN "AVICO"

Colistin (as Colistin sulphate) ..... 2000000 IU/ml

Colistin-1 ml/4litre of D/W for 3-5 days.

#### DICLACOX

Diclazuril ..... 10 mg/ml

Diclacox-1 ml/4 litre of D/W, continue for 48 hours.

#### NEOMIN PLUS 20%

Neomycin (as Neomycin sulphate) ..... 200 mg/gm

Neomin Plus 20%-1 gm for 4 litre of drinking water till 3-5 days.

#### TYLOSIN "AVICO"

Tylosin (as Tylosin tartrate) ..... 1000mg/gm

Tylosin-1 gm/2 litre of D/W for 3-5 days.







# MEAT COMPANY PRODUCTION OF QUALITY MEAT

Dr. Baz Muhammad Junejo Ex- Secretary Livestock & Fisheries Sindh

There is acute shortage of meat in the country. Hardly 50% of the requirement is available and available meat is not of required quality. It is well known fact that meat is the main source for supply of protein, used to build and repair tissue, bones, cartilage, skin, make hormones, enzymes and carry out other important functions in the human body.

Protein available in meat contains all essential amino acids and counted as better source protein than vegetable source of protein.

Up till now no efforts on scientific lines have been taken for production of quality meat, only culled farm animals, weaker, older animals, and newly born calves are being slaughtered for meat purpose, whose meat is not healthy, not nutritious not having required characteristics of meat and injurious to public health. The only solution to provide quality meat to the consumers is establishment of Meat Company.

A company registered under companies Act or Cooperative Societies Act formed by a group of farmers 10-20 basic members, owning cattle, goat, sheep in large numbers for production of Hygienic meat both Beef, Mutton and processing into byproducts like, Sausage, Roupo etc. for 50% export and 50% Inland use.

Along with Production and Processing of meat Skin, Hides, Bones, Blood and Intestine for sale in the market or Poultry feed mills for production of Hygienic poultry feed.

As per scientific definition, Meat is flesh Harvested From Adult, Healthy Animal or Bird after proper slaughtering, having characteristics as proper colour, Flavor, Taste, Nutrition and Digestibility.

meat animals ranges from 1000 kg. to 1100 kg. and dairy Cattle producing milk daily from 60-80 liters.

**CHARACTERISTICS OF MEAT ANIMALS ARE:** Early maturity fast growth rate, heavy body weight Resistant to tick and Diseases adoptable to climate. These Para meters are for all species like, Bovine, Caprine & Ovine.

In our country the Breeds of livestock with these Characteristics are suitable for meat purpose and can be developed further through selective breeding and cross breeding with exotic beef breed are mainly located in Arid & Semi Arid areas of the Country.

In our country there are few Cattle Breeds suitable for meat production are, In Sindh Tharparkar Cattle, Kankrej Cattle, in Balochistan Bhagnari Cattle, in Punjab Dajal Cattle and Cholistani Cattle, in KPK Dhani and Lohani Cattle.

The male Calves if reared properly after weaning, i.e. 6-8 months on proper nutrition, management and disease control can achieve maturity at early age i.e. 22-25 months, and heavy in weight for the production of quality meat.

The large sized Tharparkar cows after two calving can be upgraded further by crossing with drought master beef cattle by reducing age of maturity and increasing body weight.

In 2003-4 research trials in Sindh were carried out by crossing with exotic beef cattle, Charolais with Tharparkar cow of desert area Sindh and cholistani cow of cholistani area Punjab at few farms gave good results as in F-1 progeny age of maturity reduced by about one year and body weight increased by about 150-250 Kg. and they were adoptable to climate and resistant to diseases. Comparatively resu-

its of Tharparkar cross were more encouraging.

**BASIC COMPONENTS OF MEAT COMPANY ARE:**

**A. BREEDING FARMS**

**B. REARING OF CALVES**

After weaning Rearing of Thari and Kankrej male calves, Male Kids Lambs, Male Buffalo Calves above

SR#	COMPOSITION	MEAT	EGG
1	Water	66%	66%
2	Protein	21.50%	13%
3	Fat	9.00%	10%
4	Mineral (Cal, Sulphur, Iron, Phosphorus, Sodium, Zinc, vitamin B-6, B-12)	3.50%	11%

In Goat Mutton Protein & Iron are higher than other meat. Meat of male animals in all species is more palatable, nutritious & Digestible.

To, achieve Desired Characteristics of meat it is essential to slaughter animal at Adult age i.e. Eruption of two Central incisors in all Halal animals. Suitable age for slaughtering of Animals is Adult age, which is specie wise is as,

Bovine	24-30 Months
Caprine	8-12 Months
Ovine	8-10 Months
Camel	5-6 Years
Ostrich	13-14 Months ( Live weight more than 100 kg)

Adult age or age of maturity can be reduced through providing required weaning period proper feeding management and disease control to Calves kids & lambs from the date of birth to produce Hygienic meat. Meat age is important Ph value of Human & Animal body is almost same i.e. 7-4 Normal Ph is 7.0 but Ph of Digestive tract of Human being is almost 4.5 to 5.0 Acidic due to continuous release of acids required for Digestion.

Therefore it is essential that after slaughtering meat is kept at 4°C for 23-24 hours so that its Ph is decreased by 2.0 Ph i.e. Acidic, Matches with Ph of Digestive tract which show that meat age is 24 hours after that it is fit for cooking or processing, treated as Hygienic meat.

In our country Livestock breeds are not designated for the production of Meat & Milk. In developed countries they have developed their livestock Breeds specifically for Meat for milk production. Their cattle mature at early age i.e. 13-15 months and body weight of

3 months age can be purchased from commercial dairy colonies as only in Karachi, Hyderabad more than One lac male Buffalo Calves are easily available every month, will be reared and managed properly, as they are base meat farming.

**C. FATTENING OF MALE YOUNG STOCK**

Tharparkar & Kankrej Cattle young Male, Buffalo young Male, Goat Male, Sheep Male will be kept on fattening ration, up to age of slaughtering.

**ADDITIONAL COMPONENTS**

• Mini feed mill for production of Fattening Ration.

• Mechanical Slaughter House separate for small & large animals.

• Chinese style processing unit for Beef, Mutton, Chicken meat, Hide blood bones & intestine processing.

• Weighing balance.

• Veterinary services and fodder unit.

Transport/Marketing

**REQUIREMENTS, FOR FATTENING ON Daily Basis**

• Quality water 10% of

## CATTLE MEAT BREED OF SINDH



**THARI CATTLE**

LIVE WEIGHT OF ADULT MALE 400 450 Kg



**KANKREJ CATTLE**

LIVE WEIGHT OF ADULT MALE 525 570 Kg

## CATTLE MEAT BREED OF PUNJAB



**CHOLISTANI CATTLE**

LIVE WEIGHT OF ADULT MALE 400 500 Kg



**DAJAL CATTLE**

LIVE WEIGHT OF ADULT MALE 500 600 Kg

## CATTLE MEAT BREED OF BALOCHISTAN



**BHAGNARI**

LIVE WEIGHT OF ADULT MALE 600 625 Kg

## CATTLE MEAT BREED OF KPK



**DHANI CATTLE**

LIVE WEIGHT OF ADULT MALE 360 425 Kg



**LOHANI CATTLE**

LIVE WEIGHT OF ADULT MALE 325 375 Kg

## GOAT MEAT BREED OF SINDH



**PATERI ADULT MALE**

And in other province their Goat Breed.

• Kooka & Kachhi Sheep Breed in Sindh

## SHEEP MEAT BREED OF SINDH



**KOOKA ADULT MALE**



**KACHHI ADULT MALE**

And in other province in their Sheep Breed.

• Ostrich farms

(Produces red meat, With High Nutrition, less cholesterol)

body water.

• Silage Maize  
• Wheat Bhooosa  
• Barley, Wheat Brawn, Rice Brawn  
• Cotton Seed Cake & Meal.

D- Finishing for few days with high Protein concentrate at Slaughter House before slaughtering.

Basic members of the Company 10-20 farmers producing more than 30 Breeding Cows, 100 Goats, 100 Sheep, 100 Ostriches at the farm will establish the company, small interested farmers in the radius of 10-15 Km of each Breeding farms will be treated as Coordinated farmers of the company.

The company will provide all the facilities to Basic farmers & Coordinated farmers like supply of Silage, Feed, seed of multi cutting fodder, saline and drought resistant fodder & Veterinary Services on no profit basis and their young male stock i.e. Cattle 10 to 14 months age Goat & Sheep 2-4 months age be procured by the meat company on weight basis & pay cost after deducting services & feed charges. In this way middle man will be eliminated & farmers can earn more profit.

The basic breeding farms of the company will serve as mother farms as, in case if any smaller coordinated farmer is requiring bull, or Heifer, or Goat, or Sheep

may be supplied on reasonable Cost & amount be recovered on sale of young male of his farm.

If this trend of sale of male animals on weighing basis is popular in meat area, every farmer, after proper fattening will sale his male to fetch good price. This is the best way to increase the production of Hygienic meat in the Country.

The Home tract of almost all meat Breeds is Arid or Semi Arid areas of Country like Tharparkar & Kankrej Cattle Tharparkar, Badin, Umerkot, Mirpurkhas, Sanghar.

In this area about 3.0 Million Cows are available owned by small or large farmers, producing more than 2.0 Million Calves every year, more than 10.0 Lacs male Calves are easily available for meat Consumption in Sindh only likewise in Arid, male kids of pateri & Kooka & Kachhi Sheep are available in larger number. Every year more than 2.0 Million can be procured easily for rearing & fattening. Teddy Goat is very profitable Goat, matures at early age and multi kidding, more farms of 100 Goats each be established in meat area Ostrich farming is a profitable farming. Breeding farms of 200 Birds each may be established in meat area. A male ostrich can achieve body weight above 100 kg in 13-

14 months with 58% meat which is rich in Iron, Protein, tasty with low calories, low cholesterol.

Meat Company will establish a Small or Medium sized Slaughter House nearer Hyderabad or Karachi along with a Chinese style meat processing unit, which is best, suited and economical technology for the country.

To run the farm profitably Meat Company will work on the modern aspects of Breeding, Management, Feeding and Disease Control & Marketing. At least five meat companies may be established in every province in first Phase, to carry out business as

• Sale of Raw & processed Meat.

• Export of processed Meat.

• Sale of Animals during Eidul Azha.

• Sale of Quality bulls to the farmers.

• Sale of Bullocks.

• Sale of Heifers & other young Animals to farmers.

• Sale of Ostrich Chicks, feather eggs & other parts.

• Sale of Skin & Hides.

To achieve Maximum result by meat companies it is essential to implement Regulation as

• Strict Ban on Slaughtering of Calves both Sex.

• Ban of Slaughtering of female animal of any age.

• Sale of male animals on weight Basis in Meat Zone.

## FOOD FOR THOUGHT!

HUZAIMA BUKHARI AND DR IKRAMUL HAQ

## POLITICAL ECONOMY OF TAX EXCLUSIONS

Since 1991, income taxation in Pakistan has largely been converted into indirect taxation to benefit the rich - this was done by Nawaz Sharif and thereafter all regimes that retained it in the Income Tax Ordinance, 2001

The tax codes of Pakistan at the federal level. Sales Tax Act, 1990, Income Tax Ordinance, 2001, Customs Act, 1969 and Federal Excise Act, 2005 contains numerous exemptions and concessions. Majority of these were added, modified or withdrawn through executive orders, called statutory regulatory orders (SROs), without the consent of Parliament in violation of Article 77 of the Constitution of Pakistan. In 2015, the International Monetary Fund (IMF) seriously questioned the abuse of SROs for the benefit of the privileged classes. The power to issue an SRO, as an eyewash, was made subject to approval of Cabinet in 'extraordinary circumstances' through Finance Act, 2015. In reality, tax concessions exempting incomes of the poor and judicial-civil complex, businessmen-turned politicians and absentee landlords continue unabated.

The exemptions/concessions available under Sales Tax Act, 1990, facilitate illegal enrichment which make the rich, richer. These are abused by unscrupulous businessmen with the connivance of taxmen and their advisers to get benefit of even taxable supplies by mis-declarations at import and supply stages. Even where correctly collected and paid to the government, sales tax takes a large portion of the meagre incomes of the poor and a very small slice from the rich, widening the existing divide between them.

The exemptions under the Income Tax Ordinance, 2001, especially for the powerful segments, causes a huge loss to the national exchequer. Tax-free perks and benefits of public officials and high-ranking officials and public officeholders are funded by taxpayers' money. The Finance Supplementary (Amendment) Act, 2018, recently passed by Parliament, withdrew tax free perks of Governors and Ministers but did not touch the same available to mighty generals, judges and civil bureaucrats. The state must tax all perks and utilize a collection to provide free facilities related to education, health, housing and transport to the public at large. Billions forgone as tax exemptions and concessions, could have significantly reduced Pakistan's debt and fiscal deficit. The twin maladies it has been suffering from since long.

Since 1991, income taxation in Pakistan has largely been converted into indirect taxation to benefit the rich. This was done by Nawaz Sharif and thereafter all regimes that retained it in the Income Tax Ordinance, 2001. The presumptive tax, in reality, is an indirect tax. For example, a contractor

pays a fixed rate of income tax on gross value of contract. The burden falls of the contractor who withholds the income tax and deposits with Federal Board of Revenue (FBR). On the same amount, sales tax is paid to province where activity takes place. Thus, the contractor ends up paying a 20-25 percent tax on gross value! The powerful bureaucracy and political elite received Rs 600 billion in the fiscal year 2017-18, as perks and perquisites alone. Not only this, these powerful segments did not pay a single penny; as on benefits were received free or at concessional rates, in violation of section 13(1) of the Income Tax Ordinance, 2001.

Besides tax-free benefits to the ruling elites, many tax exemptions/concessions/waivers have been extended to the rich businessmen. The government of Pakistan Muslim League-Nawaz, on assumption of power for the third time in June 2013, instead of taking steps against tax evaders and wealth plunderers, gave them four amnesties in five years and many other concessions/waivers. Ishaq Dar, now a fugitive, proudly announced in September 2013 that "all demands of traders related to tax matters have been accepted". These demands were related to continuing of tax evasions. Then Prime Minister (later disqualified and now facing cases in Accountability Court) personally announced tax amnesties for the non-filers who deliberately did not file tax returns. An unprecedented amnesty was given requiring them just to pay Rs 20,000 for a tax year and "no questions will be asked and no audit will be conducted". This generous amnesty (expired on April 30, 2014) received an extremely cold response only 3395 persons availed paying a pittance of Rs 87.7 million! Thereafter, the Nawaz-Dar duo gave two more tax amnesties to criminals for whitening their untaxed assets by just paying 3 percent of the value of assets! Then came the fifth one from Shahid Khaqan Abbasi, that also failed as meagre amounts were received on undisclosed assets which were stashed abroad as well as concealed inside the country.

The state must tax all perks and utilise a collection to provide free facilities related to education, health, housing and transport to the public at large.

The position under the customs is equally apalling. Since 2010, Customs tariff lines (representing 50 percent of the SROs) are liable for import duties of less than 9.1 percent, with almost 500 of them zero.

The virus, characterised by respiratory signs including coughing, gasping, sneezing and nasal discharge, is highly contagious and responsible for major economic losses to the global poultry industry. Morbidity is 100% in non-vaccinated broiler flocks and mortality varies according to the virus strain but can be up to 60% in non-vaccinated flocks. Infected birds experience weight loss, decreased egg production and impaired egg quality and are less vulnerable. For example, for some strains, a kidney infection may follow causing mortality by toxemia. Current vaccines protect against some virus strains

rated! This is how tax laws have become a mockery of the rule of law in Pakistan. The Chairman of FBR admitted in 2014, that "the government is facing a massive revenue shortfall as the third imports are duty free. It is a matter of grave concern for the FBR that the dutiable imports have dwindled during the current fiscal year." During a hearing before the Senate Standing Committee on Finance on May 13, 2014, the same Chairman revealed that "cost of tax exemptions granted over the years to the affluent was Rs. 480 billion per annum". He was asked to explain "why FBR keeps on issuing SROs due to which customs duty, excise, sales tax and even income tax at source is not being collected and who are the beneficiaries who are repaid?"

"all of these exemptions cannot be withdrawn, as some are socially sensitive while others are protected under the Constitution". He defended exemptions of Rs. 320 billion that included income tax waiver given to independent power projects (IPPs) which he claimed was "protected through agreements and could not be withdrawn".

The Chairman of FBR, who later got rewarded by the rich to become the Governor of State Bank of Pakistan, was untruthful on all the points. First of all, no exemption could be granted through an SRO as held by the Supreme Court in Engineer Iqbal Zafar Jhagra and Senator Rukhsana Zuberi v Federation of Pakistan and Others (2013) 108 TAX 1 (S.C. Pak). In regards to the exemption granted to IPPs, it can also be withdrawn as held by the Lahore High Court in AES Pak Gen (Pvt) Company Lahore v Income Tax Tribunal Lahore (2006) 93 TAX 159 (HC Lah) and endorsed by the Supreme Court in Uch Power (Pvt) Ltd and others v Income Tax Appellate Tribunal and others 2010 (MC) 236. The tax exemptions/concessions/waivers in Pakistan are for the rich and mighty and not for the less-privileged to be 'socially sensitive' as claimed by the Chairman of FBR in 2014, which is in practice till today. Till 1977, Pakistan had progressive rates of income taxes, capital transfer taxes, and wealth tax for re-distributive justice. Since then, there has been a continuous shift from equitable taxes to inequitable ones by granting extraordinary concessions and exemptions to the mighty segments of society.

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## VACCINE HOPES RISE IN BID TO CONQUER AVIAN RESPIRATORY DISEASE

Hopes are rising that a new vaccine strategy could offer protection to millions of chickens threatened by avian infectious bronchitis.



but not others. Experts say these failures are possibly linked to differences in the spike protein the protein which enables the virus to attach to and enter cells to between strains of the virus. Research is needed to develop new vaccines that protect against multiple strains of infectious bronchitis. Vaccine So, researchers at the University of Edinburgh and the Pirbright Institute tested a new approach using a special type of vaccine known as recombinant virus vaccines. These use harmless or weak versions of a virus to introduce microbes into cells in the body. In this case, experts used recombinant viruses with different spike proteins as vaccines to build two versions of a harmless virus. The results show the vaccine offered partial protection against infectious bronchitis virus, but further research is needed to develop a more robust vaccine.

Dr Erica Bickerton at the Pirbright Institute, added: "Our research will help to develop more cost effective and efficient commercial vaccines that are capable of protecting chickens against this serious disease." The research is published in the Journal of Virology.



## IODINE MIXED SALT IS MADE FOR PEOPLE WHO ARE IODINE DEFICIENT WHEREAS ITS USUAL USAGE FOR THE NORMAL PEOPLE CAUSES DIFFERENT HEALTH COMPLICATIONS: DR ZAFAR IQBAL RANDHAWA.

Faisalabad: Iodine mixed salt is made for people who are iodine deficient whereas its usual usage for the normal people causes different health complications, said University of Agriculture Faisalabad Vice Chancellor Dr Zafar Iqbal Randhawa.



He addressed the international seminar on maternal and child health arranged by Institute of Home Sciences, Faculty of Food, Nutrition and Home Sciences, University of Agriculture Faisalabad at Sena Hall.

He said that changing lifestyle, junk food and eating habits were the main culprits behind the increasing malnutrition in the society. He viewed that our elders were used to get up at dawn in the early hours. They preferred going to mosque, walkout at that time and take complete but simple breakfast. Now, we get up late in the morning and the most of the students, even, don't take the breakfast that causes malnutrition. He added that availability of food is not a problem as the abundance of food is available in the country. He said that a low-income person who can't afford meat and apple, he can buy alternative economical sources of protein and vitamin like pulses, and vegetable.

He said that we should put focus of our children on the homemade dishes full of energy. He said that simplicity and traditional food habits would help improve the situation. He directed the food and nutrition faculty to set up the stalls of the checking vitamin D, thyronia and vitamin B12 to facilitate the campus community and locals. The bad eating habits and junk foods provoked health issues among the people. He said that effective measures are needed to educate the people about the healthy way of life.

Dean Faculty of Food Sciences, Nutrition and Home Sciences Dr Masood Sadiq Butt said that 50 percent of population was facing malnutrition. The education about nutritive and balanced food at school level will help overcome the issue. He said that vitamin D deficiency at high with 60 percent, vitamin A 45 percent whereas maternal anaemia deficiency stands at 49 and child stunting level 43 percent. He said that healthy food was essential for the mental and physical growth of the students. He urged people to use balanced usage of diet and to adopt the physical activities in their daily lives.

Jahen Kim Food Expert from South Korea said that in the 70s they were facing the massive malnutrition. They devised a comprehensive strategy and overcome the issue. He also told the students about the nutrition educational and research opportunities in his country. Institute of Home Sciences Incharge Dr Ayesha Riaz, Dr Rabia, Dr Anna and other notables also spoke on the occasion.

## UVAS Vice-Chancellor Visited PARA VETERINARY INSTITUTE, KAROR LAL-EASON (LAYYAH CAMPUS)



UVAS Vice-Chancellor Prof Dr Talat Naseer Pasha (S.I.) visited Para Veterinary Institute, Karor Lal-Eason (Layyah Campus). He visited various sections of this campus including Experimental Animal Shed, Main Administration Block, Out-Door Teaching Veterinary Hospital, Conference Hall, Computer Lab and Chemical Lab. He visited all classes and addressed the newly enrolled students of Livestock Associate Degree. In his address he urged the students to actively participate in practical work and hands on training. He also visited the PSDF funded training classes of Artificial Insemination & Calf Patterning. During visit he planted a sapling of Table Palm in main administration block under Clean and Green Pakistan Program.

## WHEAT SOWING CEREMONY ARRANGED BY DIRECTORATE OF FARMS, UAF



Faisalabad: It is imperative to adopt latest agricultural trends and practices to boost up productivity from shrinking agricultural land. It is stated by University of Agriculture Faisalabad Vice Chancellor Dr Zafar Iqbal Randhawa at wheat sowing ceremony arranged by Directorate of Farms, UAF. He was flanked by Director Farm Shahid Afzal Gill and other notables.

He said that farmers were the most hardworking persons who worked hard to produce crops, vegetables and fruits for us. He said that the farming community is used to get up in the morning and go to the bed soon after Isha prayer (Isha) is a blessing and a guarantee of peaceful and healthy life. He added that country was blessed with four seasons, ecosystem and environment. He showed his concern that with the passage of time, the agricultural land was diminishing and being converted for other uses. He added that we have to jack up agri productivity to ensure the food security. He said that wheat is the largest crop in term of agricultural land whereas we are producing surplus wheat. He added that the country was far-lagging behind from developed nations due to traditional way of farming.

Director Farms Shahid Afzal Gill said that all possible measures were taken at the farm in term of making them a model farm by adopting the latest practices. He thanked the Vice Chancellor for providing all possible resources and facilitation for the farms.

## TREE PLANTATION IS A RELIGIOUS OBLIGATION WHICH WILL ALSO HAVE POSITIVE IMPACT ON ENVIRONMENT

Faisalabad: Tree plantation is a religious obligation which will also have positive impact on environment in addition to giving financial benefits to the country, said Syed Zia Alimdar Hussain President Faisalabad Chamber of Commerce & Industry (FCCI).

Inaugurating second phase of tree plantation campaign in Government Zia-Ul-Islam Girls High School Batala Colony here under the aegis of the Faisalabad Elite Lions Club, he said that predominantly Pakistan is an agriculture country but we failed to develop agro-forestry sector. Explaining the overall forest cover, he told that as against international yardstick of 31%, we have only 1.31% forest cover in Pakistan. "The shortage of trees has triggered multiple problems and the current heat wave in Karachi and snowfall in Gilgit-Baltistan is the natural outcome of this situation", he said and told that trees are integral part of life on this planet and being a custodian of this earth homo sapiens have to make earth a livable place for all types of life including plants and animals in addition to human beings.

Madam Uzma Shabazz Head teacher of the school told that students are actively participating in tree plantation campaign which has entirely changed the atmosphere of school premises. She urged upon the students to plant and also take care of seedlings saplings till these are grown into full fledged and self-reliant trees.

District Governor International Lions Club Rashid Muneer, FCCI Former VP Rana Faz Ahmed, former Chairman Pakistan Yarn Merchants Association Mr. Obaid Ullah Sheikh, President Faisalabad Elite Lions Club Chaudhry Talat Mahmood, Chaudhry Muhammad Hamayun, Nadir Ali, Mr. Muhammad Farid, Karamat Shah and Hafiz Saif were also present during this meeting. Later Syed Alimdar Hussain planted saplings along with other dignitaries.



Consultative meeting of livestock, dairy and feedlot farmers, processors, experts, academia and government sector held in Islamabad, organized by USAID. Road map was formulated for coming 5 years to boost the feedlot, dairy, small ruminant, wool and livestock industry.

## INVESTMENT GROWS IN TECHNOLOGY TO SOLVE MALE CHICK CULLING

Industrial company Evonik has become the latest firm to provide investment support to the poultry sector's bid to solve the issue of male chick culling.

has invested in the biotechnology start-up In Ovo through its venture capital unit and now holds a minority stake in the company. Evonik has joined forces with Singapore-based venture capital fund, VisVires New Protein and Leiden University, bringing the total financing round to an investment of several million euro.



The company said In Ovo had developed a method of determining the sex in the egg that is particularly fast and reliable and could be readily integrated into the workflow of large hatcheries. The technology is being combined with a system to process the large number of eggs to be screened. In large hatcheries about 100,000 eggs must be analysed daily.

With 3.2bn day old male chicks culled annually across the globe, the issue is increasingly being raised by animal welfare groups. Poultry farmers don't rear the male birds because they do not put on sufficient flesh for meat production.

**Ethics in modern poultry farming**

Bernhard Mohr, head of venture capital at Evonik, said In Ovo had taken on one of the largest ethical problems in modern poultry farming. "This investment strengthens Evonik's position as a partner of choice for the farming industry as

we can provide support for ethical food production. Emmanuel Auer, head of the company's Animal Nutrition business line, added that the commitment would allow the firm to expand in to the egg-producing sector. Evonik currently is a global supplier of amino acids and their derivatives for advanced animal nutrition. In Ovo was founded 5 years ago by biologist Wouter Bruins and biomedical scientist Wil Stutterheim. The technology is based on biomarkers identified by the founders. These allow the gender of chick embryos in the egg to be accurately determined early after fertilisation. For this purpose, a tiny, easily resealable hole is made in the egg - for many years a standard practice for inoculation of chick embryos in the egg.

A sample is then taken and examined by mass spectrometry for the biomarker identified by In Ovo, which

has already been patented. In Ovo plans to use the invested capital to develop the technology to the stage where it can be applied on the commercial scale in hatcheries.

Managing director Wouter Bruins said: "In Evonik, we're delighted to have gained a partner with extensive knowledge of process scale-up and in the introduction of new technologies."

The next steps will include plans to develop a prototype that can rapidly and reliably analyse and sort large quantities of eggs. On the laboratory scale, In Ovo currently needs one second to analyse an egg. This rate is now to be accelerated to a few micro-seconds per egg.

The company will also use already available and proven technologies for sorting and handling large quantities of eggs. The first commercial product is expected to be launched on the market in 2020.

## NAFL SIGNS AN AGREEMENT WITH SUTAS TO DEVELOP DAIRY SECTOR IN PAKISTAN



Lahore: NAFL, one of the affiliated companies of Nishat Group, has entered into a joint venture agreement with SUTAS, one of the largest producers of milk and dairy products in Turkey, for the manufacturing, marketing, and sale of premium dairy products in Pakistan, and development of Pakistan's dairy sector (NAFL-SUTAS agreement). NAFL Join Hands With SUTAS.

The agreement was signed at a ceremony held at Nishat Hotel, Emporium Mall, by Ms. Sadia Mansha, Executive Director NAFL on behalf of NAFL, and jointly by Mr. Muharem Yilmaz, Chairman SUTAS and Ms. Aynur Duygu Yilmaz, Board Member SUTAS on behalf of SUTAS. Mian Mohammad Mansha, Chairman Nishat Group, Mr. M. Izzet Karaca Board Member SUTAS, Ms. Basak Karaca, Marketing Consultant SUTAS, Ms. Naz Mansha, Chairperson DG Khan Cement Company Limited, Mian Hassan Mansha, Chairman, Lalpur Power Limited, Ms. Iqra Hassan Mansha, Director Nishat Hotels and Properties Limited (Emporium Mall), and other dignitaries also attended the

ceremony.

NAFL-SUTAS agreement signed for the manufacturing, marketing & sale of premium dairy products in Pakistan.

NAFL and SUTAS will be setting up a manufacturing facility in Pakistan to produce a variety of premium dairy products, keeping in mind the dynamics of Pakistan's Dairy sector and the current gaps in consumer demand. They have agreed to establish a Joint Venture Company with equal shareholding ratio, with the objective to produce, market, distribute and sell premium dairy products within the country. The Joint Venture Company shall be a public limited company incorporated under the laws of Pakistan with an annual revenue of TL 2.6 billion.

NAFL is a part of the Nishat Group of companies, one of the region's leading and most diversified business groups with its presence in textile, banking, insurance, cement, paper, power generation, dairy, agriculture, real estate, hotel business, and aviation sectors. Each Group company also has a committed and seasoned history of philanthropy and social responsibility to Pakistan.

## FISHERMEN QUESTION SINDH GOVT'S ABSENCE AMID 'MESSY' BEACH CLEAN-UP



Karachi: This village is part of Sindh not Balochistan. But it seems that the Sindh government doesn't own it. Relevant officials have not announced any compensation for the losses fishermen have suffered because of this tragedy.

These sentiments were shared by a number of fishermen spoke with on Monday during a visit to Mubarak village, a coastal neighbourhood whose shoreline was badly affected by a recent oil spill and is currently under going a clean-up operation.

Located some 46 kilometers from Saddar, the coastal locality is very much part of Karachi's District West and Keamari Town.

There has been no visit by fisheries department officials, the district council chairman, area MP or even Fishermen Cooperative Society officials, which receives five per cent commission from fishermen on each catch," said Khuda Bakhsh, an old resident of the village.

He also criticised the Sindh Environmental Protection Agency (Sepa) which, he said, should have deputed its staff at the site.

"While Balochistan Environmental Protection Agency officials have visited the beach thrice, apart from the Hub assistant commissioner, since the spill occurred, we haven't seen Sepa staff here," he said.

Fishermen, though appreciative of the clean-up operation, demanded that an independent investigation be held into the incident and responsibility be fixed for the oil spill.

"We demand that people behind the incident be arrested and fishermen be compensated for their losses," said Sarfaraz, the area councillor.

According to him, most villagers are dependent on fishing and can no longer earn

their livelihood because their fishing nets had been ruined by the oily sludge and that fish rates had fallen following the incident.

'Messy' clean-up Towards the shoreline, one could see two groups engaged in cleaning the beach; the rocky side was being taken care of by Pakistan Navy personnel, all in safety gear, while on the opposite side a number of villagers were seen collecting deposits of oil sludge without properly protecting themselves from the sticky substance.

Their clothes and bodies were covered with black oily stains. Apparently, there was no coordination between the two groups.

Upon inquiry, they said that they had been engaged by Byco Petroleum Pakistan Limited (BPPL) to clean the beach.

'They have registered our names and each of us would be paid Rs2,000 for the job,' Sabir, a young villager, told Dawn.

Asked how they would get rid of the stains, they said that they would 'use petrol and diesel to wash away oil from their bodies' when concerns relating to safety were raised with Rehan Sajjad, a BPPL official present at the site, he said: 'Your concerns are genuine and these will be addressed tomorrow [Tuesday] when we resume our work.'

Actually, it's our first day and I didn't have any idea about the nature of the problem here.

He conceded that villagers should have been trained and educated about handling oil sludge before getting them involved in the operation.

However, he added, the company was under no legal obligation to carry out beach cleaning and was doing so under its corporate social responsibilities.

When similar concerns were raised with Commander

Rao Abid of Pakistan Navy, heading the beach clean-up operation at the site, he said that the company should have provided protective gear to the villagers and that he would play his part in that regard.

On beach cleaning exercise, he said the third phase had started on Monday and a major part of the oil slick had been removed, both manually and mechanically. The removed sludge was being taken away for disposal by the Karachi Metropolitan Corporation for incineration.

'A major challenge has been to remove hard oil traces from the rocks as it's tough to prevent removed content going back into the sea with high tide. But I think we have managed to overcome this to a great extent,' he said, adding that the operation was likely to be completed later in the day.

Answering a question about equipment assistance PN sought from some oil companies to remove oil traces, he said it was not the PN's job to maintain an inventory for oil spills. Oil importing and exporting companies all over the world were required to maintain such equipment and train staff to meet such an emergency.

According to him, the Soneri beach has not been affected by oil spill, Bhit Khori has been cleared while an inspection of Manhar Goth would be carried out.

Apart from lack of coordination, one serious gap highlighted during this exercise was the fact that though companies provided their equipment for containing and removing oil sludge to the navy, they did not have trained manpower to use those machines.

The source of the oil spill reported last Thursday has not yet been determined and an inquiry into the incident is pending.

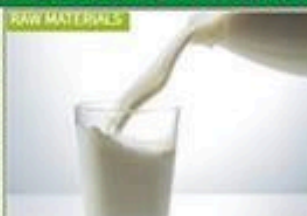


# EU DIET NOT SO GOOD FOR THE ENVIRONMENT

Global food production faces major and even contradictory challenges from increasing food production to feed the growing population while concurrently reducing environmental impacts, such as greenhouse gas (GHG) emissions, generating climate change. According to new research it was shown that the average EU citizen has a food footprint of 1070 kg of CO<sub>2</sub> equivalent per year when emissions from production, land use change and international transportation are taken into account.

## Direct and indirect emissions

The research, published in the journal *Global Food Security*, calculated that meat and dairy account for more than 75% of the impact from EU diets. That's because meat and dairy production causes not only direct emissions from animal production, but also contributes to deforestation from cropland expansion for feed, which is often produced outside of the EU. In the EU, the import share of the total food and feed supply of crop and animal products ranges from nearly 70% for Malta and Luxembourg to less than 20% for Poland and Romania (Food



and Agriculture Organization of the United Nations FAO, 2017). However, a large share of the imports is actually traded within the EU region. The share of imports coming from outside of the EU region averages 16% (range 6-30%).

## Meat comes from everywhere

On the surface, food production appears to be only a small portion of Europe's climate footprint: food production in the EU accounts for less than 5% of global emissions from the agricultural and land use sector, but since Europeans also eat products imported from all over the world, accounting for EU food emissions based only on EU food production leaves out a major piece of the puzzle.

## Impact of international trade

The researchers conclude that these results show existing differences between the dietary emissions of EU countries and that these are mostly related to the quantity of animal products consumed and the overall quantities of food consumed. Trade impacts dietary emissions, especially when land use change emissions are accounted for, resulting in different emission intensities for different production countries. As international trade plays an increasingly important role in the global food supply, dietary emissions accounting should take it more into account. This is important, particularly in planning and guiding consumer policies, for mitigating climate change and addressing the underlying global links of deforestation drivers.

# HEAT TREATMENT: A METHOD FOR DECONTAMINATING POULTRY FEEDS

Heat treatment is a proven alternative method of decontamination to formaldehyde and other chemical treatments and is generally accepted as an effective means of *Salmonella* destruction in raw materials.

By Colin Russell, Consultant Microbiologist

*Salmonella* contamination of poultry and poultry products remains a concern for the poultry industry. The traditional methods of reducing microbial contamination in feed raw materials have been compromised within the EU recently with the ban on the incorporation of formaldehyde in feed additives.

## Heat treatment objectives

There are many recommendations for the heat treatment of poultry feeds published in the literature. For broiler feeds, a moderate level of heat treatment is likely to kill most of the *Salmonella* and *Escherichia coli* remaining. *Salmonella* for broiler flocks higher levels of heat treatment will be required as any *Salmonella* not killed will have enough time to repair and grow during the life of the flock leading to outbreaks later on.

The first thing to consider with heat treatment is the incidence of *Salmonella* and the levels of contamination. This will vary depending on the raw materials in question. Secondly a balance must be sought between the need to destroy *Salmonella* and the effect of heat on vitamin inclusion in the finished feed, the levels of starch gelatinisation achieved, protein denaturation and other anti-nutritional factors. The effect of heat treatment on the nutrient quality of the finished feed should be routinely checked to ensure that diets are achieving correct specification.

Once the feed has been decontaminated, of equal importance is the ability of a feed mill to prevent recontamination of the feed post treatment.

## Heat treatment effectiveness

Avigen has established that heating at 80°C for 6 minutes at 15% relative humidity is enough to destroy monophyletic bacterial populations at a level of 10<sup>6</sup> per gram. This heat treatment process will need to be altered depending on the equipment being used and when installing new heat treatment equipment in a feed mill, its effectiveness at destroying *Salmonella* should be tested.

Heat treatment effectiveness will also be affected by the moisture content of the



raw materials, storage quality (moisture content) and how the feed passes through the equipment. This should be first, in first out in nature to ensure even heat treatment. The treatment process should also consider changing environmental parameters in the thermal treatment plant, for example as temperature rises, pH of feed falls, and *Salmonella* becomes less heat resistant. The addition of heat by pelleting, for example, will be minimal and should not be considered as part of the thermal process.

## Heat treatment technology

Table 1 - Equipment that can be used to heat treat feed.

Process equipment	Notes
Heat treat conditions (length/temperature, and dry or in combination)	Can heat treat conditions described above for steam/heat treated. Do not heat treat (steam) times are short
Long term conditions	Must be fed in a container (200°C/1000°C) can be made available. Can be used to produce a large amount of feed treatment in a single batch/continuous feed
Feeds conditioning/pelleting	Thermal process conditions can be accommodated, and to be placed in a container. Heat penetration needs to be checked
Automatic partner	Heat/temperature can be variable. Feed/feeding of the material. Can be difficult to regulate process flow
Reproduction technology	Temperature control and to ensure process (heat/temperature) when the feed is hot. High temperature process (heat) should be monitored

There are a range of different technologies available to achieve the desired standards of heat treatment (Table 1). Avigen currently uses steam conditioning followed by long-term retention. The conditioner introduces steam to the raw materials and the retention vessel ensures an even heat treatment through its first in first out properties. The choice of equipment and heat treatment parameters will depend on the overall objective e.g. Free of *Salmonella* (i.e. a reduction in counts to a level below

# 6 TIPS TO TURN UP THE "HEATS"

Getting cows bred in a timely manner and pregnant at first service is impacted by their ability to show a heat. If cows' environment isn't conducive to expressing heats with physical indicators like mounting, chin resting and sniffing, it could impact your herd's bottom line.

"Many influences play a role in a cow's reproductive cycle," says Stephanie Aves, business development manager for Nodap North America. "When dairy farmers have strategies in place to allow for cows to express heats, they can breed them at the optimum insemination time and better reach their reproduction goals."



Stephanie Aves, business development manager for Nodap North America.

To make sure you're not missing a cow in heat evaluate these 6 management areas:

## 1. Housing

Too many cows in one place can decrease the amount of activity in a group. Ensure cows have adequate space to allow cow-to-cow interaction by using the following parameters:

- Have at least 1 lying stall for each cow.
- Include at least 2 feet of bunk space per cow.

## 2. Floor surface

Any slippery or very coarse surface makes cows nervous. Continuously keep your freestall floor clean. Incorporate these cow-friendly floor characteristics on your dairy:

- A dry walking surface
- Confident and comfortable footing with sufficient floor grip
- Durable floor

## 3. Feet and leg problems

Cows with sore feet or legs exhibit less mounting activity. When they're in heat and have sore feet or legs, they may stand in a stall or be isolated by another cow because they don't want to move. Ultimately, showing a false heat. Additionally, subacute ruminal acidosis (SARA) can cause lameness in cows. To help with mounting activity, consider the following tips:

- Incorporate a hoof trimming routine
- Breed for better feet and legs
- Ensure your nutrition programme is helping your cows prevent the development of SARA



External temperatures above 29 degrees Celsius cause less mounting because cows are uncomfortable in this high-temperature weather.

## 4. Status of herd mates

The number of mounts per cow increases with the number of cows currently in heat. Therefore, the chance of more than one cow being in heat on any day decreases less for smaller herds or with an increase in pregnant cows in a group. Consider dividing your groups to higher producing, early lactation cows are together in a group. Not only does this offer more efficient heat detection and artificial insemination, but it also allows you to productively feed a diet for higher production.

## 5. Keep cows cool

External temperatures above 29 degrees Celsius cause less mounting because cows are uncomfortable in this high-temperature weather. Integrate proper heat abatement strategies for your farm to keep your cows cool and active during summer weather. This could include fans, water sprinklers and shade canopies.

## 6. Activity monitors

With an activity monitoring system and having the above tips set in place, you don't have to worry about missing a single heat. Even when you're not around to see it. "Automating cows at the right time in relation to your dairy's bottom line, so it's important to catch cows in heat when it's most productive to breed them," says Aves. "Activity monitors are a tool to track heat 24/7 so you don't have to spend time watching for heats or worry about missing a heat. However, to catch cows in heat, cows need to be physically show their heats. Having appropriate environmental and management protocols in place will help ensure you never miss a single heat."

To learn more about heat detection with activity monitoring systems and how they can help your farm reach its productivity goals, visit [nodap.com/dairyfarming](http://nodap.com/dairyfarming).



UAF Vice Chancellor Dr Zafar Iqbal presents a souvenir to a speaker of International Seminar at University of Agriculture Faisalabad.

AGRI TOURISM DEVELOPMENT CORPORATION OF PAKISTAN

# DIARRHOEA? EGG POWDER TO THE RESCUE

Another tool to reduce the use of antibiotics is the use of immunoglobulins from eggs. Trials showed that this product is effective to support a calf's start in life and also to offer support when challenged by various forms of diarrhoea.

The main cause of calf loss during the first 2 weeks of life is diarrhoea. In general diarrhoea is characterised by more liquid being secreted than is being reabsorbed. However, diarrhoea is not a disease, but a symptom. Having diarrhoea has a protective function for the animal, because the higher liquid volume in the gut increases motility and pathogens and toxins are excreted faster. Diarrhoea can occur for several reasons. It can be caused by incorrect nutrition, but also by pathogens such as bacteria, viruses and protozoa.

## Bacteria and viruses

*E. coli* belonging to the normal gut flora of humans and animals and can be mainly found in the colon. Only a fraction of the serotypes cause diseases. The pathogenicity of *E. coli* is linked to virulence factors. Deceptive virulence factors are for example the fimbriae used for the attachment to the gut wall and the bacteria's ability to produce toxins. *Salmonella* in general plays a secondary role in calf diarrhoea, however, salmonellosis in cattle is a notifiable disease. Disease due to *Clostridia* is amongst the most expensive ones in cattle farming globally. In herbivores, *Clostridia* are part of the normal gastro-intestinal flora, only a few types can cause serious disease. In calves, *Clostridium perfringens* occurs with the different types A, C and D. Rotaviruses are the most common viral pathogens causing diarrhoea in calves and lambs. They are mainly found at the age of 5 to 14 days. Calves normally attack calves at the age of 5 to 21 days.

*Cryptosporidium parvum* is a protozoan and presumed to be the most common pathogen causing diarrhoea (prevalence up to more than 60%) in calves. Undigested feed and incorrect use of antibiotics (plant raw materials (mainly soy products) are partly not digested in the rumen, which can lead to diarrhoea. The transition from milk to milk replacer can also be a reason. An early application of antibiotics, and moreover to young calves can lead to a change in the villi, malabsorption and therefore to slight diarrhoea. Longer therapies using high dosages of antibiotics can also lead to a bacterial superinfection of the gut. The problem is that in a disease situation, antibiotics are often used incorrectly. The use of antibiotics only makes sense when there is a bacterial infection and not due to viruses, protozoa or poor feed management. To keep the use of antibiotics as low as possible, alternatives need to be considered.

## Egg powder to add immunoglobulins

In order to achieve optimal results in calf rearing, 2 approaches are possible. Firstly, the prophylactic approach. This is the method of choice as diarrhoea can mostly be prevented. Therefore, it is necessary to supply the calf with the best possible equipment. As antibodies are one crucial but limiting factor in the colostrum of the 'modern' cow, this gap needs to be minimised. A study conducted in Germany in 2015 demonstrated that more than 50% of the newborn calves had a deficiency of immunoglobulins in the blood. Only 41% of the calves showed an adequate concentration of antibodies in the blood (10-30 mg IgG/dl blood serum). Immunoglobulins contained in hen eggs (IgY) can partly compensate for poor colostrum quality and serve as a care package for young animals. A trial was



conducted with an egg powder product\* on a dairy farm (800 cows) in Brandenburg, Germany. In total 39 newborn calves were observed until weaning (65<sup>th</sup> day of life). Before birth, the calves were already divided into control and trial group according to the location number of their mother cow. All calves were fed the same and received 4 litres of colostrum, with 20 mg IgG/dl on the first day of life. Control (n=20) no additional supplementation and the trial group (n=19) day 1 5. 100g of the egg powder product per animal per day mixed into the colostrum or milk. It was shown that the calves in the trial group showed a significantly higher (13%) weaning weight (1195.74kg compared to 1065.55kg in the control group (Figure 1).

Figure 1 - Effect of an egg powder product on weaning weight (kg)

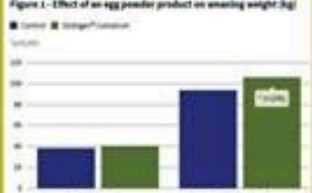


Figure 2 - Effect of an egg powder product on ADG (g)

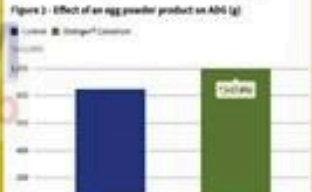


Figure 3 - Effect of an egg powder product on ADG (g)

api) and 18% higher average daily gain (999g compared to 848g in the control group) (Figure 1 and Figure 2). Support during acute diarrhoea

When diarrhoea occurs, the calf has to be treated. So the second approach is to find the best and quickest solution. It is not always necessary to use antibiotics, as they do not work against viruses or protozoa. Egg antibodies can be an answer when combined with electrolytes as the following trial shows. On a dairy farm (550 cows) in Germany a feeding trial with a product\*\* based on egg powder and electrolytes was conducted from December 2017 to May 2018. 2 groups

This means also that nearly twice the amount of antibiotics were used. This leads to the conclusion that calves in the trial group had an improved health status compared to calves in the control group. A further result from the improved health status was an increase in performance in the trial group (Figure 4).

The average daily weight gain of the trial group was 28% higher than in the control group (1600 vs 1000g per day) leading to a significantly higher weaning weight (87.8kg) than in the control (60.7kg).

\*Glabigen Colostrum, \*\*Glabigen Dia Star (EW Nutrition Germany).

Figure 4 - Duration of antibiotic application (days)



Figure 5 - Effect on average daily weight gain (g)

