

Newspaper Clips January 15, 2011

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Now, GM chickens to fight bird flu

Scientists Develop Birds That Don't Spread Disease, Prevent Epidemics

London: British scientists have developed genetically modified (GM) chickens that cannot transmit bird flu infections — a step that in future could reduce the risk of avian flu spreading and causing deadly epidemics in humans.

Scientists from Cambridge and Edinburgh universities said that while the transgenic chickens still got sick and died when they were exposed to H5N1 bird flu, they didn't transmit the virus to other chickens they came into contact with.

"Preventing virus transmission in chickens should reduce the economic impact of the disease and reduce the risk posed to people," said Laurence Tiley, of Cambridge's department of veterinary medicine, one of the lead researchers on the study.

H5N1 bird flu has been circulating in Asia and the Middle East, with occasional outbreaks in Europe, since 2003 and has killed or forced the destruction of hun-



While the transgenic chickens still got sick and died when they were exposed to H5N1 bird flu, they didn't transmit the virus to other chickens they came into contact with, experts said

dreds of millions of birds, according to the world animal health organization OIE.

It rarely infects people but when it does it is deadly: the World Health Organisation has documented 516 cases in people since 2003 and the virus has killed 306 of them.

Experts say the danger is that the virus will evolve into a form that people can easily catch and pass to one another, causing the transmission rate to soar and producing a pandemic in which millions of people could die.

In Southeast Asia, China and

parts of Africa, bird flu is already a major economic and food security issue, and also poses a constant threat of being transmitted to humans.

South Korea, already battling an outbreak of foot-and-mouth disease, said this week it was raising its bird flu alert level after detecting H5N1 bird flu at poultry farms.

Helen Sang from the Roslin Institute at Edinburgh University, who worked with Tiley, told a joint briefing the GM chickens could offer a way to improve economic and food security in parts of the world where bird flu is a major threat,

but said using them would probably add slightly to farming costs.

"Countries like China are interested in the possibility of genetic modification to protect their poultry stocks and people," she said. "It will inevitably be more expensive because you'd have to use the products of breeding companies to stock the producers." At the same time, the need for vaccination and losses from whole flocks being infected should be reduced.

While large poultry producers could benefit from this early type of transgenic bird, smaller "backyard" farmers would need to wait until scientists create birds that can be bred on small farms. "That would be a means of ensuring that the birds these small farmers bred themselves still carried the protective transgene," Tiley said.

To breed their GM chickens, the researchers introduced a new gene into them that manufactures a small "decoy" molecule. REUTERS

Times of India ND 15/01/2011

P-23

Bullet-proof vests made of 'custard' to shield troops

London: British troops would be donning new bullet-proof jackets made from a secret liquid substance that experts say can absorb the force of a shrapnel by thickening and hardening instantly on impact.

Defence chiefs believe that the revolutionary new form of body armour nicknamed "bullet-proof custard" will offer greater protection for soldiers on the battlefield.

The hi-tech "liquid armour", which was showcased at a defence conference in London, is said to be lighter, more flexible and easy to wear for soldiers, Daily Mail reported.

The pioneering technology has been created by a team of scientists at the global defence and security company BAE systems in Bristol.

According to the report, researchers have inserted the futuristic formula, called a 'shear thickening fluid', between sheets of traditional

The new body armour, made from a secret liquid substance, can absorb the force of shrapnel by thickening and hardening instantly on impact

Kevlar to produce the "super armour". The liquid has been compared to custard because the molecules lock together and "thicken" in same way as the dessert sauce reacts to being stirred when heated.

Experts say this will create armour that is about half as heavy as standard bullet-proof vests which allows greater manoeuvrability for troops, said the report.

British soldiers currently struggle with bulky body armour made up of ceramic plates and Kevlar, which is five times stronger than steel but can restrict movement. ❏

Malaria vaccine a reality by 2015?

But With 53% Efficacy For 8 Mths, Treatment Still Inadequate For India, Say Experts

Kounteya Sinha | TNN

New Delhi: A malaria vaccine could be a reality by 2015. The most promising candidate now showing that it can protect children for 15 months.

The efficacy of the vaccine, whose phase-II trial results have just been published in the British medical journal *Lancet*, reduced from 53% for eight months (during the phase-I study in 2008) to 46% when it protected for 15 months.

Indian experts, however, claim that for a vaccine to be effective in the field, it has to give protection of over 75%. "At present, long-lasting insecticide-treated bed nets give 60% protection, and its per capita cost is very low. Hence, a vaccine has to be at least 75% effective," a vector-borne disease control programme expert said.

The vaccine (RTS,S/AS01E) worked by attacking the malaria parasite in its early stages, when it first enters the bloodstream or liver cells, with the aim of completely preventing infection of red blood cells and the development of serious symptoms.

The latest study was established to assess the safety and efficacy of the vaccine against *Plasmodium falciparum* infection among healthy



African children. Between March 2007 and October 2008, 894 children aged 5-17 months from Kenya and Tanzania were randomly assigned three doses of either RTS,S/AS01E (447 children) or rabies vaccine (447). Blood samples were taken before vaccination, and at regular intervals.

During the phase-I study in 2008, initial results showed that the RTS,S/AS01E vaccine gave 53% protection against clinical malaria for at least eight months. In this study, the Kenya Medical Research Institute followed up the children for a further seven months.

In the longer term, the efficacy of the vaccine did not wane and protection against clinical malaria last-

BITEWISE

▶ Most promising candidate shows it can protect children for 15 mths

▶ Efficacy of vaccine reduced from 53% for eight months (during phase-I study in 2008) to 46% when it protected for 15 months

▶ For a malaria vaccine to be effective in India, it has to give protection of over 75%

▶ Authors say further studies needed to establish vaccine efficacy in children with HIV or those who are malnourished

▶ Late-stage trials among 16,000 children in 7 African countries on

▶ If data shows vaccine to be effective, it could be licensed and rolled out in 2015

ed for at least 15 months after vaccination. Studies revealed children vaccinated with RTS,S/AS01E were 45.8% less likely to be infected with the *P falciparum* parasite. Frequent serious adverse events included pneumonia, febrile convulsion and gastroenteritis.

However, fewer serious adverse events were reported in the RTS,S/AS01E group (11.4%) than

in the rabies group (19.7%).

The authors maintain, "further studies are needed to establish vaccine efficacy in children with HIV infection or those who are malnourished. Furthermore, phase III studies should include study sites at different transmission intensities to confirm how generalizable our results are."

Late-stage trials of this vaccine among 16,000 children in seven countries across Africa are on, and immunization is due to end in February. If data show the vaccine is effective, it could be licensed and rolled out in 2015.

Globally, around 300 million people become infected with malaria annually, and at least 2.5 million succumb to it — primarily children in Africa and Asia. A child is killed by malaria every 30 seconds around the world. In India, on an average, five lakh people are affected and over 18,000 die of malaria. In some countries with a very heavy malaria burden, the disease accounts for as much as 40% of public health expenditure. Almost 60% of malaria cases occur among the poorest 20% of the world's population.

Malaria remains a major health problem in south-east Asia, and 83% of its population is at risk.

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CBI seeks HRD's nod to investigate Ignou VC

Akshaya Mukul | TNN

New Delhi: The Central Bureau of Investigation (CBI) has sought the clearance of Human Resource Development (HRD) ministry to initiate preliminary enquiry against V N Rajsekharan Pillai, vice-chancellor of Indira Gandhi National Open University (Ignou).

The ministry has asked the President to advise about CBI's request as the President is the appointing authority for vice-chancellor.

The CBI is seeking preliminary enquiry in two cases relating to alleged irregularity in giving permission to Sikkim Manipal

FACING THE HEAT

University, Gangtok, and Punjab Technical University, Jalandhar, to start distance education courses.

The Central Vigilance Commission (CVC) in its report on irregularities in Ignou last year had said though Sikkim Manipal University took the approval of Distance Education Council—the statutory body for distance education—the compliance report was not placed before the joint committee of University Grants Commission (UGC), All India Council for Technical Education (AICTE) and Distance Education Council (DEC).

The CVC maintained that approval of joint committee was not taken before the grant of recognition to Sikkim Manipal University. It had advised Ignou and the ministry to identify concerned official.

As per the statute, distance education course can be started only after it has been cleared by a joint committee of UGC-AICTE-DEC. Ignou vice-chancellor is the ex-officio head of DEC.

In case of Punjab Technical University, the CVC found that the compliance report submitted by the university was not placed before the joint committee of UGC-AICTE-DEC, and its approval

Times of India ND 15/01/2011 P-23

Wobbling Earth may turn zodiac forecasts wrong this year

Washington: All your horoscope predictions for the year 2011 are bound to be wrong. Why? Because the stars are not aligned as your astrologer thinks they are.

All zodiac signs – Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius or Pisces – were originally based on the constellation the sun was in the day you were born.

However, there is a major phenomenon that will disregard all this – the Earth wobbles, a phenomenon called precession.

Over the 2,500 years or so since the zodiac was established, your sign has moved about a month rela-

tive to the sun and stars, reports Live Science.

The ancient Babylonians based the zodiac on which constellation the sun appeared to be in when a person was born. Since then, the moon's has exerted a gravitation pull on Earth, causing a "wobble" on its axis that has shifted the stars' alignment by about a month.

"Because of this change in the tilt, the Earth is over here and the sun is in a different constellation than it was 3,000 years ago when this study of the stars began," astronomer Parke Kunkle said. So your New Year resolutions may belong to someone else. ANI

Rise and fall of Roman empire: Climate change the key factor?

Oslo: Climate change seems a factor in the rise and fall of the Roman empire, according to a study of ancient tree growth that urges greater awareness of the risks of global warming in the 21st century.

Good growth by oak and pine trees in central Europe in the past 2,500 years signalled warm and wet summers and coincided with periods of wealth among farming societies, for instance around the height of the Roman empire or in medieval times.

Periods of climate instability overlapped with political turmoil, such as during the decline of the Roman empire, and might even have made Europeans vulnerable to the Black Death or help explain migration to America during the chill 17th century.

Climate shifts that affected farm output were factors in "amplifying political, social and economic crises", Ulf Buentgen, of the Swiss Federal Research Institute for Forest, Snow and Landscape Research, said. He was lead author of the report in Friday's edition of the journal *Science*.

The review, by experts in Germany, Austria, the United States and Switzerland, extended study of tree rings 1,000 years beyond



© Rick Gomez/Corbis

Warm and wet summers coincided with the peak of the Roman empire while periods of climate instability overlapped with its decline, says a new study

previous analyses. Thick rings indicate good growth conditions while narrow ones mean poor.

The study said the evidence, helping back up written records that are sparse in Europe more than 500 years ago, "may challenge recent political and fiscal reluctance" to slow projected climate change in the 21st century.

Modern societies seem less vulnerable but "are certainly not

immune" to climate change, especially because migration "will not be an option in an increasingly crowded world", they wrote.

The UN panel of climate experts says that greenhouse gases will lead to more droughts, floods and rising sea levels that could swamp low-lying islands. The study said: "Wet and warm summers occurred during periods of Roman and medieval prosperity." REUTERS

Times of India ND
15/01/2011 P-23

Brainwave: An iPhone app that can read minds

Experts have come up with a new application for the iPhone that has the ability to read minds. The XWave enables users to control on-screen objects with their minds as well as train their brains to control attention spans and relaxation levels. It works via a headset strapped around the user's forehead, plugging into the iPhone jack. A state-of-the-art sensor within the device can then read the user's brainwaves through the skull, converting them into digital signals before displaying them in various colours on the iPhone screen. As the mind focuses on a particular task the graphics change, indicating the user's level of concentration or relaxation.

'Mammoths can be recreated in 4-5 yrs':

A professor has claimed that the woolly mammoth, extinct for thousands of years, could be reborn with the help of cloning technology. Akira Iritani, a professor at Kyoto University, is reactivating a campaign to resurrect the species that died out 5,000 years ago. "Now the technical problems have been overcome, all we need is a good sample of soft tissue from a frozen mammoth," the Telegraph quoted him as saying.

E-books make our brains lazy: Study

A study claims that readers using e-books are less likely to remember what they have read because the devices are so easy on the eyes. It has been assumed that displaying information more clearly and legibly will help readers take it on board, but the truth could be that making something easy to read causes the brain to be lazy. E-books prevent us from absorbing information as their crisp screens tell our brain that the words they convey are not important.

Financial Express ND
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p-1

Students from polytechnics could join engg colleges

Kirtika Suneja

New Delhi, Jan 14: The government plans to allow lateral entry of students from Industrial Training Institutes (ITI) to polytechnics and from there to degree-level engineering colleges in order to make the technical workforce more employable and in tune with industry requirements. Around six-and-a-half lakh graduates leave engineering colleges every year, but only a quarter of them are employable and nearly two-thirds of them need to be re-skilled before they can be put on the job.

In order to upgrade their skills and improve the curriculum, the government plans to urge the private sector to participate and facilitate linkages between polytechnics and the industry. The ministry of human resources development (HRD) has set up a seven-member task force with members from the industry and academia to draw up a blueprint detailing the modalities.

In 2009-10, there were 2,872 All India Council for Technical Education (AICTE) approved degree-level institutes with an intake of around 10 lakh students while the 1,659 AICTE-approved diploma-level technical institutions had almost 4.7 lakh students. Though there has been no mapping of the demand-supply gap in engineering, experts say the problem is not one of shortage; instead, there is an excess supply of unemployable engineering graduates.

Recently, the ministry said a separate division of 60 students per course can be started from the second year onwards in all AICTE-approved institutions for polytechnic students for lateral entry. There are almost 2,500 polytechnics in the country and their annual intake is approxi-

mately half that of degree-level engineering institutions. They offer three-year diploma programmes in engineering and technology, applied arts and crafts and other courses.

However, sections of the industry are opposed to the idea of lateral entry as it feels that students from these three categories cater to different needs of the industry.

"The ITIs have students for blue-collar jobs while polytechnics create supervisor-



TRACK TWO

- Only 25% of the 6.5 lakh engg graduates are directly employable by the industry
- Lateral entry of polytechnic students could reduce skill shortage
- HRD ministry recently suggested a division in polytechnics for lateral entry
- Polytechnic students seeking engg entry may have to clear entrance exam

level officials and degree-level colleges make managers. So, lateral entry will raise the aspirational levels of students. Besides, there is a greater need for supervisory level officials also," said an industry representative who attended a meeting on the issue recently.

A tough entrance exam is considered as a solution to this, so that lateral entry is not easily provided and meritorious students not denied opportunities.

■ Continued on Page 2

ITI, polytechnic...

As for the linkages with private players to encourage public-private partnerships, the task force - which will submit its report in 10 months - may look at providing some form of incentives to the industry for upgrading the polytechnics. "For linkages with the industry, an idea is being floated on the lines of the World Bank scheme as part of which the private parties adopt an ITI and get Rs 2.5 crore to upgrade them," an official involved in the process said.