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CSIR-CSIO

CSIO develops LED landing lights for fighter aircraft

VIJAY MOHAN
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Indigenously developed LED navigation and landing lights for fighter aircraft will soon replace conventional halogen and filament lights. The new lights are not only light, but also consume less power.

The Central Scientific Instruments Organisation (CSIO) here has developed landing lights, which form part of the aircraft's nose-wheel assembly and coloured navigation lights that are installed on wingtips and vertical tail fin.

These were developed for indigenous Tejas aircraft, but the technology and specifications can be adapted to meet requirements for other fighter as well as transport aircraft. At present, imported lights are being used in IAF aircraft.

The LED landing light, which illuminates the runway ahead while taxing, take-off or landing, weighs about 2 kg and consumes 150 watts while giving an illumination of 3.5 lakh candela. Conventional lights, on the other hand weighed 5 kg, including a power booster that also consumed extra space and consumed 1,100 watts for giving less than 2 lakh candela, according to scientists associated with the project. These also generated more heat.

A model shows positions of navigation lights developed by CSIO.

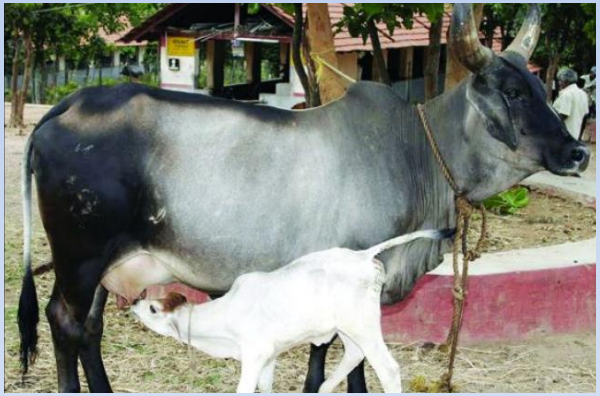
The LED wingtip lights weigh 150 gm each with a brightness of 60 candela, while the conventional lights weigh 400 gm each with a brightness of 20 candela, scientists claimed. Under international regulations, navigation lights are mandatory for all civilian and military aircraft on routine flights. These indicate the aircraft's presence in the skies as well as the direction of its flight as a safety measure for other aircraft in the vicinity.

CSIO said both types of lights were undergoing trials and these were expected to be operational by January. The project commenced in September last year.

The Tribune | Page 12 | New Delhi | Oct 27, 2016

Centre for Cellular and Molecular Biology unit setting up a 'frozen zoo' of genes

CSIR-CCMB



CCMB's Lacones unit is developing a frozen zoo. This essentially means a bank of frozen genetic material of wild animals, such as cells, tissue, DNA, oocytes and spermatozoa.

Lacones scientist-in-charge Dr Karthikeyan Vasudevan said, :We have prepared a database of genetic material of several wildlife species using cryopreservation. We are working to develop a frozen zoo. It will be a national repository of wildlife species that will be available for future research."

Lacones is working on a method to preserve genetic material. "So far we have been using foetal bovine serum for cryo preservation. We are working on using sterile serum from the eye of the buffalo as a cryprotectant," Vasudevan said.

The frozen zoo is on the lines of the one in San Diego, which was the first such zoo, established by Dr Kurth Benirschke, in 1975. It will be set up on its Attapur complex.

Sakshi | Oct 27, 2016
Source: www.deccanchronicle.com/lifestyle/pets-and-environment/271016/centre-for-cellular-and-molecular-biology-unit-setting-up-a-frozen-zoo-of-genes.html

Your Grandmother's Haldi Just Got A Little Better

CSIR-CIMAP

The Central Institute for Medicinal and Aromatic Plants (CSIR-CIMAP) based in Lucknow, has developed a new variety of turmeric named CIM-Pitamber. The new variety, which is available for commercial cultivation, is good news for farmers and traditional Indian homes.

This high yielding variety of turmeric has a growth period of 180-190 days and a better output of 60-65 tonnes of rhizomes/ha. The variety contains more than 12.5 percent curcuminoids. In field trials, the variety has demonstrated 50 tonnes of rhizomes/ha, containing more than 10 percent curcuminoids.

It also holds much promise for a large number of traditional Indian homes where turmeric is not only used as a popular spice, but also as a first aid-cum medical ingredient. Curcumin, which ranges from ten to twelve percent, has a wide spectrum of medicinal properties including anti-inflammatory, wound healing, anti-cancer, antioxidants, anti-microbial as well as anti-aging.

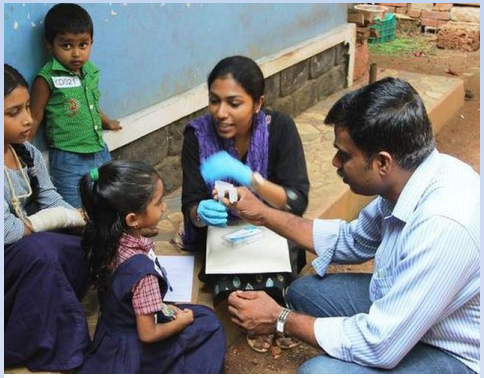
According to the Hindu Business Line, scientists used genetic techniques on 130 germplasms collected from different places to select, cultivate, differentiate characteristics and finally develop super clones. The CIM-Pitamber is tolerant to the common leaf botch disease, affecting the turmeric crop.

The variety will be able to produce rhizomes, with 90 per cent more curcuminoids and yields, more than double the existing varieties, and IISR Pratibha, now grown in North Indian plains.

Swarajya Staff | Oct 26, 2016
Source: swarajyamag.com/insta/your-grandmothers-haldi-just-got-a-little-better

Science turns lens on Kodinhi twins mystery

CSIR-CCMB



Researchers collecting saliva sample from a twin child at Kodinhi.

Village with highest number of twins in Kerala attracts international research team.

Kodinhi, a tiny village in Malappuram known for its bizarrely high concentration of twin siblings, has now come under the lens of an international team of genetic researchers.

A joint team comprising researchers from various institutions in India, Germany, and the U.K. has started collecting saliva samples from the twins of Kodinhi village, near Tirurangadi, to isolate their DNA, in a bid to find out why so many twins are born here.

They said they were trying to screen the specific gene responsible for the country's highest twinning population. Kodinhi, consisting of eight wards in Nannambra grama panchayat with a near 20,000 population, logs the highest rate of twins in the country.

The presence of more than 500 twin siblings of different ages in the village still remains a riddle for the scientific world.

The 12-member team from the CSIR's Centre for Cellular and Molecular Biology, Hyderabad; Kerala University of Fisheries and Oceanic Studies (KUFOS), Kochi; Institute of Tropical Medicine at the University of Tubingen, Germany; and the University College, London; is now camping at Kodinhi and studying the physiology and behaviour of the twins.

The twins phenomenon has been showing no let-up. "Among the twins we are studying are a three-week-old pair," P. Preetham Elumalai, assistant professor of biochemistry from KUFOS told The Hindu.

Thirumalaisamy P. Velavan from Tubingen University is leading the research team.

The researchers will pool in the data collected from the four twin communities and subject them to a deeper analyses. The results are likely to throw interesting light on a riddle that the world has been watching with much curiosity until now.

Although local people tend to ascribe many reasons for high twinning in the four global communities, none of them had any scientific backing. "Until today, no studies have provided scientific rationale for twinning in specific populations," said Prof. Preetham.

Kaustubh Adhikari from University College London, who got global attention by screening grey hair gene, and his colleague Macarena Fuentes Guajardo say they are excited about the Kodinhi twinning phenomenon.

ABDUL LATHEEF NAHA| Oct 26, 2016
Source: www.thehindu.com/news/national/kerala/science-turns-lens-on-kodinhi-twins-mystery/article9272664.ece