



CSIR IN MEDIA

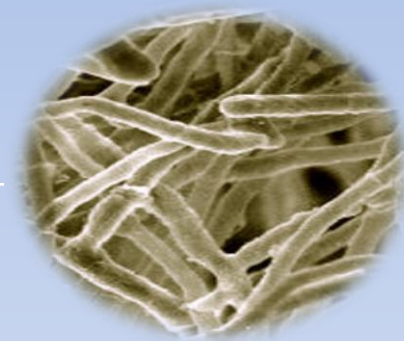
A Daily News Bulletin

6th June, 2016, Page: 1

Trichoderma: The fungi that also works as bio-fertilizer

Research has revealed that Trichoderma, a fungi commonly found in all types of soil, can be used as a bio-fertilizer to mitigate greenhouse gases like carbon dioxide and methane responsible for global warming. It also has properties to repair damaged root tissues of various agriculture crops, thereby increasing productivity.

This application of Trichoderma has been discovered by National Botanical Research Institute (NBRI) after five years of research. The institute has also got patent for this application in US, Europe, Germany and Britain. After successful field trials of rice in Shillong, Banthara and some parts of UP, the institute has submitted the report to the Union ministry of science and technology for implementation. "An NBRI team led by scientist Aradhana Mishra has found the new application of Trichoderma, which is first of its kind in the world," said NBRI former director CS Nautiyal.



"Agricultural practices, especially in paddy cultivation and usage of chemical fertilizers, is a big source of methane emission resulting in global warming. This bio-fertilizer is not only a replacement of chemical fertilizers but also helps in repairing root tissue damaged due to carbon dioxide," said Mishra.

<http://timesofindia.indiatimes.com/city/lucknow/Trichoderma-The-fungi-that-also-works-as-bio-fertilizer/articleshow/52595258.cms>

TNN | Jun 5, 2016

TINY SPECKS THAT WREAK HAVOC ON CITIZENS' HEALTH

Smaller the particle, bigger the harm it does to health of anyone who breathes it in. Sore eyes, sudden coughing or running nose in the middle of traffic are indication of deteriorating quality of air we breathe. Lucknow mostly ranks high on air pollution data all year round and its air has shown presence of particles several times smaller than PM (particulate matter) 2.5, measuring as small as PM0.10 and PM0.056.

Indian Institute of Toxicology Research (IITR), a CSIR lab based in Lucknow found presence of nano-pollutant PM1 (ranging from 0.3 micro meter to 1.0 micro meter), in Lucknow's air in the post-Diwali air quality assessment in 2014. But when it took up the first planned monitoring of nano-pollutants in the city's air in October 2015, the size of pollutants were even smaller. "In case of PM10 we can say it contains nickel and lead but we don't know the chemical constitution of ultrafine and superfine particles," said IITR scientists.

"The source could be vehicular emission, burning of solid waste, construction or any other," said sources. Out of three monitoring locations, Parivartan Chowk (commercial), Gomtinagar (residential) and Gehru campus, IITR (rural), commercial and residential locations reported higher concentration of superfine particulate matter.

According to Greenpeace India, "PM2.5 caused over 3million premature deaths in 2010. The international agency for research on cancer classified particulate matter pollution as carcinogenic in 2013 and designated it as a leading environmental cause of cancer deaths." In Lucknow, population exposed to PM2.5 is very high.



"Particulate matter is generated mostly by industries and vehicles," said Sunil Dahiya, campaigner, Greenpeace India. Though fuel-efficient vehicles don't release soot anymore, ultrafine particles are emitted in much higher concentration, compounding the problem.

Vehicles crawling at a snail's pace cause more fuel to burn and pollute air as much as power cuts and increased use of diesel generator sets. Pollutants emitted by petrol engine include oxides of carbon, nitrogen and sulphur along with hydrocarbons and lead. If the smoke has more than 3% CO concentration, the vehicle will pollute air. In case of diesel vehicles, smoke density causes pollution. If density of smoke emitted by the vehicle is more than 65 Hartridge Smoke Unit (HSU), the vehicle should be seized for causing pollution. While '0' HSU means smoke is invisible, 100 HSU means smoke is thick and opaque. Even CNG vehicles are not emission free. A CSIR study done in Delhi found nano carbon particles in exhaust of CNG buses.

<http://timesofindia.indiatimes.com/city/lucknow/Tiny-specks-that-wreak-havoc-on-citizens-health/articleshow/52595291.cms>

Neha Shukla | TNN | Jun 5