



## News

**Right green for crop, environment, wallet**

Without enough nitrogen, crops don't grow well. Yields are reduced significantly. Applying too much nitrogen fertilizer, on the other hand, can hurt the environment. Nitrogen can enter the watershed, polluting aquatic ecosystems. Microbes can also convert the excess nitrogen into nitrous oxide, a greenhouse gas implicated in climate change. "Managing nitrogen is vital for global food security," says Yuxin Miao, an agronomist at the University of Minnesota. "It is also crucial for reducing pollution and climate change." Miao and his colleagues have been researching ways to efficiently manage nitrogen in agriculture. They compared several approaches. The researchers found that one approach, active canopy sensor-based nitrogen management, is the most efficient. Sensor-based .....[Read more...](#)

**Date:** January 16, 2019

**Source:** Science Daily

**Climate change: How could artificial photosynthesis contribute to limiting global warming?**

The Intergovernmental Panel on Climate Change (IPCC) has numerically simulated various scenarios. Only in the most optimistic scenario can the climate target still be achieved by means of immediate and drastic measures in all sectors (transport, agriculture, construction, energy, etc.). In the less optimistic scenarios, the global community will have to take additional measures beginning in 2030 or by 2050 at the latest: we will have to implement "negative emissions" by removing large quantities of CO<sub>2</sub> from the atmosphere and store them permanently in order to balance the carbon budget. One example of negative emissions is large-scale forestation -- forests bind CO<sub>2</sub> in wood as long as it is not later used as fuel. But CO<sub>2</sub> could also be removed from the atmosphere and bound using .....[Read more...](#)

**Date:** January 16, 2019

**Source:** Science Daily

**To curb climate change, we have to suck carbon from the sky. But how?**

At McCarty Family Farms, headquartered in sun-blasted northwest Kansas, fields rarely sit empty any more. In a drive to be more sustainable, the family dairy still grows corn, sorghum, and alfalfa, but now often sows the bare ground between harvests with wheat and daikon. The wheat gets fed to livestock. The radishes, with their penetrating roots, break up the hard-packed surface and then, instead of being harvested, are allowed to die and enrich the soil. Like all plants, cereal grains and root vegetables feed on carbon dioxide. In 2017, according to a third-party audit, planting cover crops on land that once sat empty helped the McCarty farms in Kansas and Nebraska pull.....[Read more...](#)

**Date:** January 17, 2019

**Source:** National Geographic

**Using bacteria to create a water filter that kills bacteria**

Srikanth Singamaneni, professor of mechanical engineering & materials science, and Young-Shin Jun, professor of energy, environmental & chemical engineering, and their teams blended their expertise to develop an ultrafiltration membrane using graphene oxide and bacterial nanocellulose that they found to be highly efficient, long-lasting and environmentally friendly. If their technique were to be scaled up to a large size, it could benefit many developing countries where clean water is scarce. The results of their work were published as the cover story in the Jan. 2 issue of Environmental Science & Technology. Bio-fouling accounts for nearly half of all membrane fouling and is highly.....[Read more...](#)

**Date:** January 18, 2019

**Source:** Science Daily

**'Gene therapy, biotechnology can tackle deforestation and air pollution**

Kolkata, June 19 (IANS) Gene therapy and biotechnology can be used to tackle environmental issues like deforestation and air pollution, while genetic modification in mosquitoes can solve the problems of epidemic diseases such as dengue and malaria, experts said here on Tuesday. "Gene therapy is very promising in solving the problems in curing diseases and genetic disorders that do not have any remedy at present. Genetic modification in mosquitoes can solve the problems of epidemic diseases such as dengue and malaria," Nabarun Ghosh, a biology professor at West Texas A&M University, said while addressing school students at Science City here. Biotechnology can help in finding out the level of Particulate Matter 2.5 in the air, which is a burning issue in big cities around the world, he said. "I worked in collaboration with another scientist, to make a filterless air purifier that will clean the air and destroy PM 2.5 which is found indoors as well. In 2005 when we started we were targeting MRSA (methicillin-resistant Staphylococcus aureus) bacteria. We used AHPCO Cell (Advanced Hydrated Photocatalytic Oxidation Cell) and we could actually measure the saturation of PM 2.5 using our machine," said.....[Read more...](#)

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**Source:** The Economic Times

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