

World's 1st GM rubber

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In news- The world's first genetically modified (GM) rubber plant was planted on the outskirts of Guwahati, Assam.

About the tree-

- It has been developed at the Kerala-based Rubber Research Institute of India (RRII).
- The GM rubber plant, the first of its kind, is **developed exclusively for the northeast** and is expected to thrive in the climatic conditions of the region.
- This is the first time any GM crop is developed exclusively for this region.
- The plant has **additional copies of the gene MnSOD (manganese containing superoxide dismutase)** in it.
- The MnSOD gene has the **ability to protect plants from the adverse effects of severe environmental stresses such as cold, drought,** etc...and low and high temperatures as well as high light intensity.
- The new crop is expected to **cut short the maturity period of rubber,** indicating chances for early yielding as well.
- As **natural rubber is a native of warm humid Amazon forests** and is not naturally suited for cold conditions in the northeast, the plant is expected to **tide over severe cold conditions during winters.**
- Commercial planting would be taken up later, depending on the results of the experiments conducted at the farm.
- As there are no plant species in India that can breed with natural rubber, there is **no risk of genes flowing from the GM rubber into any other native species.**
- Though **different from Bacillus Thuringiensis (BT),** GM Rubber is the second genetically modified crop to start field trials in India after Bt. Cotton.

Rubber-

- Rubber, also called **India rubber, latex, Amazonian rubber, caucho** consists of polymers of the organic compound isoprene, with minor impurities of other organic compounds, plus water.
- Currently, rubber is harvested mainly in the form of the latex from the rubber tree which is a sticky, milky and white colloid drawn off by making incisions in the bark
- The latex then is refined into rubber that is ready for commercial processing.
- Rubber has a large stretch ratio and high resilience, and also is water-proof.
- **India is the third largest natural rubber producing country** of the world, next to Thailand and Indonesia, producing about 9 per cent of the global output.

In India almost the entire rubber is produced in **Kerala, Tamil Nadu and Karnataka.**