

Cellphones ring in death knell for plants: Study

Prashant Rupera, TNN Oct 7, 2012, 11.05PM IST

VADODARA: Even as Union government has rolled out new norms to reduce impact of cellphone radiation on people, a new study has revealed that the increasing electromagnetic wave energy (EMWE) pollution is adversely impacting even plant issues.

EMWE pollution is caused due to mobile towers, power plants, high voltage towers and diagnostic tools which use electromagnetic waves of different frequencies in radio wave spectrum.

A group of scientists of Gujarat after studying the impact of EMWE on tulsi and spinach have concluded that the electromagnetic waves leave behind harmful effect even on plants.

The scientists selected the two types of plants and raised them by providing nutrients, water and temperature under laboratory conditions. These plants were exposed by EMWE of frequency 900 Mega hertz and field strength 1.9 milli tesla for 72 hours.

The scientists carried out both physiological and biochemical analysis of these plants.

They noticed that morphological changes like decrease in growth rate in terms of height, number of branches and leaves is seen in such plants. Their leaf size gets decreased, leaves become more brittle and they fell off early.

"The biochemical tests indicated that after exposure there is a decrease in assimilatory pigments like chlorophylls and anthocyanins which shows decrease in photosynthetic rate in plants. At the same time, the carotenoid pigment content increased which resulted in the aging effect," director of Junagadh-based Noble Group of Institutions Ved Vyas Dwivedi said.

Dwivedi carried out the research along with Chandni Upadhyaya, lecturer at Anand-based P M Patel Institute of Biotechnology and Trushit Upadhyaya, assistant professor at Charotar University of Science and Technology (CHARUSAT) at Changa.

"At the same time, carbohydrates like starch and cellulose which are the main constituents of leaf cell wall decrease upon long term exposure. Sugar and water content also got decreased," said Dwivedi.

Shockingly, in tulsi, which is a medicinal plant, its anti-microbial activity reduced after the plant was exposed to electromagnetic waves.

Protein content of electromagnetically exposed and unexposed plants was analyzed by the scientists and comparative study indicated difference in protein profiling of the exposed plants. "Protein content of those plants which were exposed to radiation had fallen drastically compared to those plant which were grown naturally," added Dwivedi.

According to the scientists, cellular service providers and operators have specified limits by defining their Specific Absorption Rate (SAR) for human bodies but they have nothing specified for the plants.

"If plants and trees are not taken care of, then it would be unrealistic to think of green world in a few years," they say.

The scientists now plan to submit their work and results to Gujarat Council on Science and Technology, Gandhinagar so that a mass scale awareness campaign can be taken up.

http://articles.timesofindia.indiatimes.com/2012-10-07/vadodara/34306067_1_medicinal-plant-power-plants-electromagnetic