

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH
RAJYA SABHA
UNSTARRED QUESTION No. 1726
(TO BE ANSWERED ON. 13.03.2025)

BIO-MEDICAL WASTE

1726 # Shri Banshilal Gurjar:

Will the Minister of **SCIENCE AND TECHNOLOGY** be pleased to state:

- (a) whether it is a fact that Council of Scientific and Industrial Research has developed a technology for converting biomedical waste into soil additives;
- (b) if so, the details thereof and the current status of technology transfer; and
- (c) the manner in which this technology can be leveraged to effectively address issues in the management of biomedical waste?

ANSWER

MINISTER OF STATE (INDEPENDENT CHARGE)
SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a) & (b)	Yes, Sir. Constituent laboratory of the Council of Scientific and Industrial Research (CSIR) namely, CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram has developed a technology for converting biomedical waste into soil additives. It consists of an automated biomedical waste conversion rig that can spontaneously disinfect and immobilize pathogenic biomedical waste such as blood, urine, sputum, laboratory disposables, etc., apart from imparting a pleasant natural fragrance to otherwise foul-smelling biomedical waste. Simultaneously, the laboratory disposables could be disinfected and prepared for direct recycling. With its potential to transform treated waste into value-added soil additives with minimal human intervention, the developed technology provides a safer solution for healthcare facilities, avoids the risk of spills and occupational exposure, and assists in preventing the uncontrolled spread of infectious microbes. The rig is installed at All India Institute of Medical Sciences (AIIMS), Delhi for point-of-care validation.
(c)	The technology could be implemented at any healthcare facility where pathogenic bio-medical waste is generated. The rig requires only a 3-phase connection and an air compressor line and can be installed at point-of-care. The operation can be scaled up as needed, and the rig will be equipped with IoT technologies for remote monitoring of the treatment and operation. *****