GOVERNMENT OF INDIA
MINISTRY OF CHEMICALS AND FERTILIZERS
DEPARTMENT OF FERTILIZERS

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UNSTARRED QUESTION **NO. 181** TO BE ANSWERED ON: **21.07.2026**

Transition to innovation-driven ecosystem of fertilizers

181 Shri Satnam Singh Sandhu:

Will the **Minister of CHEMICALS AND FERTILIZERS** be pleased to state:

(a) whether Government is working towards a calibrated transition to innovation-driven ecosystem in the domain of fertilizers;
(b) the role envisaged for new products such as biostimulants, specialty fertilizers and nano-fertilizers in this transition;
(c) how the reduction of GST on key fertilizer raw materials has supported domestic manufacturing and cost efficiency; and
(d) the steps being taken to reduce strategic dependence of the country on imported fertilizer inputs while safeguarding farmer affordability?

ANSWER
MINISTER OF STATE IN THE MINISTRY OF CHEMICALS AND FERTILIZERS
(SMT. ANUPRIYA PATEL)

(a) and (b) The Government of India is promoting the concept of balanced use of fertilizer besides conventional fertilizers like Urea, DAP. The Government is encouraging the use of Nano- Fertilizer, Bio-Fertilizer and Organic Fertilizer. Further, the Government of India has recognized 227 Bio Stimulants and 32 Nano fertilizers. The Sulphur coated Urea is also included in Fertilizer Control Order (FCO) which has more efficiency. The water soluble fertilizers are also specified in FCO which are mainly used in Value Cash Crops and Horticultural Crops.

Indian Council of Agricultural Research (ICAR) informed that they are supporting the transition towards an innovation-driven fertilizer ecosystem through the development of advanced nutrient management technologies, including nano-fertilizer formulations, organo-mineral fertilizers, enriched fermented organic manures (EFOM), crop- and soil-specific biofertilizers, and liquid biofertilizers with enhanced shelf life. The Council also promotes soil test-based balanced and Integrated Nutrient Management (INM), Soil Test Crop Response (STCR)-based fertilizer recommendations, and decision-support tools for site-specific nutrient management to improve fertilizer use efficiency, soil health and sustainability.

In addition, ICAR is generating scientific evidence by developing, testing and evaluating innovative nutrient products nano-fertilizer formulations, organo-mineral fertilizers, enriched fermented organic manures, biostimulants and crop- and soil-specific biofertilizers. These products are intended to enhance nutrient use efficiency, improve nutrient availability and uptake, maintain soil health, reduce nutrient losses, and supplement conventional fertilizer use as part of integrated nutrient management.

(c) The Government has rationalized Goods and Services Tax (GST) rates applicable on fertilizers and agricultural inputs with effect from 22.09.2025. GST on key raw materials such as Sulphuric Acid, Nitric Acid and Ammonia has been reduced from 18% to 5%. Lowering GST rates from 18% to 5% on critical raw materials reduces the cost of production for fertiliser manufacturing units, especially those producing P&K fertilisers. This helped correct the long-standing inverted duty structure, where inputs were taxed at a higher rate than final fertiliser products. Reduced tax incidence eases working-capital pressures, lowers the accumulation of Input Tax Credit (ITC) and improves cash flows, which is crucial given the industry's dependence on subsidy reimbursements.

(d) To reduce dependence on imported fertilizers and promote indigenous and alternative nutrient sources, ICAR has developed technologies for producing phosphocompost, vermicompost, bio-enriched compost, municipal solid waste compost and biomineral fertilizers from organic wastes. ICAR also promotes Natural Farming through the use of on-farm bio-inputs such as Jeevamrit, Beejamrit, compost and biomass recycling to support indigenous nutrient production and balanced nutrient use. The Council has developed nutrient use-efficient crop varieties, such as Biological Nitrification Inhibition (BNI) wheat and phosphorus-efficient varieties, which improve nutrient use efficiency, reduce fertilizer requirement and enhance nutrient uptake.

In addition, ICAR has developed crop- and soil-specific biofertilizers, promoted integrated nutrient management (INM) and crop rotation, and developed site-specific nutrient management tools and Soil Test Crop Response (STCR) - based fertilizer recommendations to optimize fertilizer use. These technologies and practices are disseminated through farmer training, frontline demonstrations, awareness programmes and extension activities, thereby improving fertilizer use efficiency, reducing dependence on imported fertilizer inputs, and supporting affordable and sustainable nutrient management.

In line with the objective of promoting Atmanirbharta in the fertilizer sector, significant investments are being undertaken by the industry to augment domestic capacities of fertilizer raw materials including setting up new capacities of Phosphoric Acid and Sulphuric Acid plants. In addition, five fertilizer companies have signed an agreement with Solar Energy Corporation of India (SECI) on 30.03.2026 for the procurement of approximately 7 lakh metric tonnes (LMT) of green ammonia per annum for a period of 10 years. The green ammonia will be utilized for manufacturing of P&K fertilizers, including DAP & NPKs fertilizers.

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