GOVERNMENT OF INDIA
MINISTRY OF CHEMICALS AND FERTILIZERS
DEPARTMENT OF FERTILIZERS

RAJYA SABHA

UNSTARRED QUESTION NO. **1297** TO BE ANSWERED ON: **11.03.2025**

Promotion of usage of nano fertilizer

1297: SMT. KIRAN CHOUDHRY:
SHRI BRIJ LAL:
SMT. MAYA NAROLIYA:
SHRI SADANAND MHALU SHET TANAVADE:

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

(a) the steps Government has taken to ensure widespread awareness and adoption of nano urea and nano DAP among farmers, particularly in rural areas;
(b) the details of the campaign/programme being implemented, State-wise;
(c) the measures being taken to ensure the availability of nano fertilizers in remote and inaccessible areas as well as in rural and agrarian regions, State-wise;
(d) whether there are any ongoing studies by the Indian Council of Agricultural Research (ICAR) or other research institutions on the long-term impact of nano fertilizers on soil health, productivity and environmental-sustainability; and
(e) if so, the details thereof?

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

(a) to (c): In order to promote the use of Nano Fertilizers amongst the farmers, the following steps have been taken:

i. Use of Nano Urea is promoted through different activities such as awareness camps, webinars, nukkadnataks, field demonstrations, Kisan Sammelans and films in regional languages etc.

ii. Nano Urea and Nano DAP are made available at Pradhan Mantri Kisan Samridhi Kendras (PMKSKs) by concerned companies.

iii. Nano Urea has been included under monthly supply plan issued by Department of Fertilizers regularly.

iv. ICAR through Indian Institute of Soil Science, Bhopal recently organized National Campaign on “Efficient and Balanced Use of Fertilizer (including Nano-fertilizers)”.

v. Promotion of use of nano fertilizers was done during the Viksit Bharat Sankalp Yatra (VBSY) which was launched on 15th November, 2023.

vi. For ease in application and utilization of Nano fertilizers like Nano Urea through foliar application, initiatives such as innovative spraying options like 'Kisan Drones' and distribution of battery operated Sprayers at retail points are undertaken. For this purpose, pilot training and custom hiring spraying services through Village Level Entrepreneurs are actively promoted.

vii. DoF in collaboration with fertilizer companies has initiated a Maha Abhiyan for adoption of Nano DAP in all 15 agro-climatic zones of the country through consultations and field level demonstrations. Further, DoF in collaboration with fertilizer companies has also launched campaign for field level demonstrations and awareness programs of Nano Urea plus in 100 districts of the country.

(d) & (e): Indian Council of Agriculture Research (ICAR) research institutes (20), KVKs (30) and state Agricultural Universities (25) have carried out nano urea (liquid) and Nano DAP trials on different crops (> 20 crops) such as Paddy, Wheat, Maize, Sorghum, Finger millet, Bajra, Groundnut, Mustard Pulse, Fodder, Cotton, Tomato, Chilly, Cabbage, Cucumber, Capsicum, Onion, Zinger, Turmeric, Cassava and Elephant foot yam covering 15 agro-climatic zones. Impact of nano urea varies with the crops. On an average it saved upto 8-12 % fertilizer nitrogen along with recommended package of practices. Application of nano urea (02 spray) with 100% RDF in rajma has no adverse impact on soil nutrients content. There is no significant change in the soil mineral N concentration for 75 % RDF + 1 NU spray for wheat, however soil N content decreased (10-15%) in rice (Patna). In okra and bottle gourd, application of 75% RDF + 2spray of nano urea can replace N requirement by 25.0 % of foliar application but recorded depletion of soil mineral N (20-25%). Application of 100 % N + one nano urea spray significantly decreased the cyanogen (bitterness compound) in casava at Thiruvananthapuram (CTCRI). Combined use of chemical fertilizers (50% RDN) + two foliar nano urea spray + zinc application exhibited on par dry fodder production but elevated protein content (1-2%) and reduced fiber fractions in fodder maize at Karnal.

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