

NANO UREA

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Context:

India will replace the consumption of 2.5 million tonnes of conventional urea with nano urea in FY24, the union chemicals and fertilizers minister said at a press conference recently.

Background:

This is in line with India's goal of achieving self-sufficiency in urea production by 2025.

About UREA:

- 1. Urea is a significant component in Indian agriculture due to its high nitrogen content and affordability.
- 2. Urea is the most important nitrogenous fertilizer in the country.
- 3. Over use of urea leads to nitrate leaching, water contamination, and greenhouse gas emissions, soil acidification and loss of biodiversity.
- 4. Nano urea has been developed to address several challenges associated with conventional urea fertilizers in agriculture.

Nano Urea:

Nano Urea is a nanotechnology-based fertiliser that is used to provide a sufficient amount of nitrogen to plants.

Development and Approval:

- 1. Nano Urea is developed and patented by the Indian Farmers Fertiliser Cooperative Limited (IFFCO).
- 2. It is the only nano fertilizer approved by the Government of India and included in the Fertilizer Control Order (FCO).

Benefits:

- 1. Energy-Efficient Production: Nano Urea is produced using an energy-efficient and environmentally friendly process with reduced carbon footprints.
- 2. Increased Nutrient Availability: It enhances nutrient availability to crops by more than 80%, resulting in higher nutrient use efficiency.
- 3. Improved Crop Productivity: Nano Urea is expected to improve crop yields, soil health, and the nutritional quality of produce.
- 4. Addressing Imbalanced Use: It aims to address the issue of excessive use of conventional fertilizers.
- 5. Nano Urea reduces nitrate leaching, water contamination, and greenhouse gas emissions compared to traditional urea.