# 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.