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Urea Gold fertilizer

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Why is in news? How to make Urea more efficient as a fertiliser, and why that's needed

Late last month, Prime Minister Narendra Modi officially launched '**Urea Gold**' fertiliser. Developed by the state-owned Rashtriya Chemicals and Fertilizers Ltd (RCF), it is **basically urea fortified with sulphur**.

Urea gold:

Normal urea contains **46% of a single plant nutrient**: Nitrogen or N.

Urea Gold **has 37% N plus 17% sulphur or S** and **aims at two things**: -

To **deliver S along with N**. Indian soils are deficient in S, which oilseeds and pulses – the country is significantly import-dependent in both – particularly require.

To **improve the nitrogen use efficiency** (NUE) of urea - Coating of S over urea ensures a more gradual release of N.

Rashtriya Chemicals and Fertilizers Ltd (RCF) is **yet to commercially introduce Urea Gold** or reveal any pricing details.

How Urea Gold Is Better Than Others?

Sulphur-coated urea facilitates a **gradual release of nitrogen**, thereby enhancing its availability and uptake by crops.

The **inclusion of humic acid in Urea Gold** further **extends its lifespan** as a fertilizer.

This product **not only substitutes traditional urea** consumption but also **reduces overall fertilizer usage**.

According to the report, 15 kg of Urea Gold provides comparable benefits to 20 kg of conventional urea, making it a more efficient and effective choice for farmers.

Concerns:

Urea is India's most widely used fertiliser, with its consumption/sales rising from 26.7 million tonnes (mt) to 35.7 mt between 2009-10 and 2022-23.

The government measures, such as mandatory coating of all urea with neem oil and reducing the size of bags from 50 to 45 kg, enabled a slight dip after 2013-14 till 2017-18. But the subsequent period has shown renewed uptrend.

The first **is imports**, which accounted for 7.6 mt out of the total 35.7 mt sold last fiscal. Even with regard to domestically-manufactured urea, the feedstock used – natural gas – is mostly imported.

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The second concern is **nitrogen use efficiency** (NUE). Barely 35% of the N applied through urea in India is actually utilised by crops to produce harvested yields. The balance 65% N is unavailable to the plants, much of it “lost” through release into the atmosphere as ammonia gas or leaching below the ground after conversion into nitrate.

The government has the hurdle in **fixing the cost of the fertilizer**, because the urea is coated with other materials like zinc, boron, sulphur, etc.

Benefits of Urea Gold:

It **enhances nitrogen use efficiency** by slowing down the hydrolysis of urea and providing a steady supply of nitrogen to the plants.

This **reduces the need for frequent and excessive applications of urea** and saves fertilizer costs.

It **improves soil health by lowering soil pH** and increasing organic matter and microbial activity. This creates a favourable environment for plant growth and nutrient availability.

It **protects the environment by reducing nitrate leaching and runoff**, which can contaminate groundwater and surface water and cause eutrophication. This also helps to mitigate greenhouse gas emissions from agriculture.

It **boosts crop yield and quality by providing balanced nutrition and stress tolerance**. This increases crop profitability and food security.

Urea Gold is a versatile product that can be used for all crops and soils. It can be applied using the same methods as conventional urea, such as broadcasting, banding, or fertigation.

Urea Gold is a **cost-effective and sustainable solution** for enhancing crop production and environmental protection.

Conclusion:

Urea Gold is a new fertilizer for Indian farmers that promises to address sulphur deficiency in the soil, reduce fertilizer consumption, improve nitrogen use efficiency, and enhance crop quality.

It is a product of innovation and vision that reflects the government's commitment to the welfare and prosperity of farmers.

It is hoped that Urea Gold will usher in a new era of agricultural growth and development in India.