

What is fortified rice, and how is it prepared?

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Recently, Union Cabinet approved a scheme to distribute fortified rice under government programmes.

WHAT IS FORTIFIED RICE?

Fortification is the practice of deliberately increasing the content of an essential micronutrient, i.e. vitamins and minerals (including trace elements) in food to improve its nutritional quality and provide a public health benefit with minimal risk to health



➤ The fortification factor does not last for more than **45 days**, so it isn't advisable to store fortified rice for long

➤ According to National Family Health Survey, **78.7%** children and **75%** in the district are anaemic and suffer from malnutrition

➤ In the first phase, fortified rice will be distributed in Badangi, Bobbili, Ramabhadrapuram and Terlam mandals

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What is Fortification?

- **Food Safety and Standards Authority of India (FSSAI)** defines fortification as “Deliberately **increasing the content of essential micronutrients in a food**, to improve the nutritional quality & to provide public health benefit with minimal risk to health”.
- It is a process of **adding micronutrients** like iron, folic acid and vitamin B12.
- It is an effective, **cost-efficient complementary strategy** to **address the nutrition problem** within a short period.
- Various technologies are available to add micronutrients to regular rice, such as **coating, dusting, and extrusion**.
 - Extrusion involves the **production of fortified rice kernels (FRKs)** from a mixture using an extruder machine.
- The **fortified rice kernels** are blended with regular rice to produce fortified rice.

How it Works?

- **Dry rice flour** is mixed with a **premix of micronutrients**, and water is added to this mixture.
- The mixture is passed through a twin-screw extruder with **heating zones**, which **produces kernels similar in shape and size to rice**.
- These kernels are dried, cooled, and packaged for use.
- FRK has a **shelf life of at least 12 months**.

As per the guidelines of Ministry of Consumer Affairs Food and Public Distribution:

- The **shape and size of the fortified rice kernel** should resemble the normal milled rice.
- The **length and breadth of the grain** should be 5 mm and 2.2 mm respectively.

Need for Rice Fortification:

- India has very **high levels of malnutrition** among **women and children**.
- **Every second woman** in the country is **anaemic** and **every third child is stunted**.
- **Fortification of food** is one of the most suitable methods to combat malnutrition.
- **Rice is one of India's staple foods**, consumed by about two-thirds of the population.
- **Per capita rice consumption** in India is 6.8 kg per month.
- Therefore, **fortifying rice with micronutrients** is an option to supplement the diet of the poor.