

## What is Parboiled Rice?

The Union Ministry of Consumer Affairs, Food and Public Distribution urged farmers of all states to opt-out of paddy planting as the centre would not accept parboiled rice for Kharif marketing season (KMS) 2021-22 from any state due to high stock level. Recently, the Telangana CM and members of his Cabinet staged a protest demanding a uniform paddy procurement policy, as Telangana is the major producer of parboiled rice.

In this article, we will understand what is parboiled rice and why the centre stopped procuring it. The topic becomes significant for upcoming UPSC Prelims, as the weightage of the current affair questions has seen a rise in the last couple of years.

### About Parboiled Rice

Parboiled rice is a type of processed rice produced in various Asian nations, primarily in India, Africa, Europe as well as America. Parboiling of rice is not a new practice, and has been followed in India since ancient times.

- Parboiled rice, also known as converted rice or easy-cook rice, is rice that has been partially boiled while still in its husk. The dictionary meaning of 'parboil' is 'partly cooked by boiling'.
- Soaking, steaming, and drying are the three essential phases of making parboiling rice. This makes the process of making the rice easy and improves its nutritional value, modifies its texture and hence makes it more resistant to attack from the weevils.
- The nutritional value of the parboiled rice is high as it has iron, calcium and possess fewer calories and carbs, as well as more fibre and protein than white rice. These makes parboiled rice a healthier option to the typical white rice.
- It helps gut health while also alleviating diabetic symptoms.
- **Parboiled Rice cultivating states:**
  - Telangana
  - Tamil Nadu
  - Kerala
  - Andhra Pradesh
  - Chhattisgarh
  - Odisha
  - Jharkhand
  - West Bengal
  - Karnataka
  - Bihar

- Punjab
- Haryana
- **Varieties**- In general, all varieties may be processed into parboiled rice, however long slender varieties are preferred to avoid breaking during milling.
- Aromatic types, on the other hand, should not be parboiled because the procedure might lead them to lose their aroma.

## Method of producing the Parboiled Rice

The process of parboiling rice was established in India **to reduce losses caused by breakage during hand pounding**, particularly with long-grained kinds. In this method, paddy is soaked in excess water and then boiled in its husk, which results in pregelatinized starch. Because of the uniform bulk of gelatinized starch, all hairline fractures are filled, preventing breaking during milling. After that, the paddy is drained and dried. The paddy is milled once it has passed through these steps. There are several processes through which rice are parboiled. Two of the method are given below:

### 1. **Chromate Soaking Technique:**

- The Chromate Soaking Technique is used at the Paddy Processing Research Centre (PPRC) in **Thanjavur**.
- It employs chromate, a salt family in which the anion includes both chromium and oxygen, to eliminate aroma from wet rice.
- Chromate is added to the soaking water at a rate of 50g/100 kg paddy, which prevents germ action and removes foul odour.
- At the PPRC, a high temperature short time method was also created. Steeped paddy is parboiled and dried at the same time at a high temperature for a short period of time.
- The soaked paddy is put into the sand roaster. Because the paddy is fully and consistently parboiled, the subsequent cooking time is reduced.

### 1. **CFTRI Parboiling Process:**

- The Central Food Technological Research Institute (CFTRI), **Mysuru**, adopts a method in which the paddy is soaked in hot water for three hours, as opposed to the more conventional practise of soaking the grain for eight hours.
- After draining the water, the paddy is cooked for 20 minutes. Furthermore, in the CFTRI technique, the paddy is dried in the shade, but in the usual approach, it is sun-dried.

Read what is Aerobic Rice Cultivation, in the linked article.

## Advantages of Parboiled Rice

- When cooked, parboiled rice does not become a glutinous mass.

- Dehusking parboiled rice is simple, and the grain becomes harder, resulting in lower grinding losses.
- Rice's nutritional value increases after parboiling because the water dissolves the vitamins and minerals found in the hulls and bran coats and carries them into the endosperm.
- Milling results in a higher yield of head rice because the kernel is more resistant to fracture.
- Milled parboiled rice has more water-soluble vitamin B, such as thiamine, riboflavin, and niacin, than milled raw rice.
- Milled parboiled rice is more resistant to insect and fungal attack.

## Disadvantages of Parboiled Rice

- Due to the heat treatment, it becomes dark.
- Due to the prolonged soaking, it develops a foul odour.
- Antioxidants may be destroyed by the heat treatment. As a result, rancidity may develop.
- Mycotoxins may be formed as a result of the excessive moisture content.
- It needs a longer cooking time and more energy.
- The cost of drying is added to the entire processing cost, resulting in an additional capital investment. Thus, establishing a parboiling rice milling unit necessitates a larger investment than establishing a raw rice milling unit.

## Why Centre stopped the procurement of the Parboiled Rice?

The Union Ministry of Consumer Affairs, Food and Public Distribution informed that the FCI would no longer procure the parboiled rice because of the following reasons:

### 1. High stock of Parboiled Rice in the country:

According to the Food Ministry, the total stock of parboiled rice as of April 1, 2022 is 40.58 lakh metric tonnes (LMT). **Telangana has the most stock at 16.52 LMT, followed by Tamil Nadu (12.09 LMT) and Kerala (3 LMT).** The overall parboiled rice stock will rise to 47.76 LMT in the upcoming days.

### 1. Low Demand of Parboiled Rice:

The Ministry reports that demand for parboiled rice has decreased in recent years. The requirement for parboiled rice is estimated to be around 20 LMT per year for distribution under the National Food Security Act of 2013. The reason for low demand is:

- **Production in parboiled rice-consuming states** such as Jharkhand, Kerala, and Tamil Nadu has **grown in recent years**, resulting in decreased flow to deficit states. Previously, the Food Corporation of India (FCI) would get parboiled rice from states such as Telangana and deliver it to these states. However, parboiled rice output has

expanded in several states in recent years. Thus, the present inventory is adequate to fulfil demand for the next two years.

