

Black Rice as a Super Food

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Introduction

Rice (*Oryza sativa*) is an important staple food grain consumed by more than half of the world's population. Among the species of *Oryza*, black rice (*Oryza sativa* L. *indica*) derives this name because of the high amount of anthocyanin compound. Black rice is also known as Forbidden rice, Purple rice, Emperor's rice, heaven rice, Imperial rice, King's rice, Prized rice, Royal's rice, or Longevity rice. It is also called Anti-aging rice. This indica species of rice is mainly cultivated in China (62%), followed by Sri Lanka (8.6%), Indonesia (6.2%), and India (5.1%), and followed by different countries. In India, it is cultivated in small amounts in North East and South India as compared with other rice varieties. This traditional rice is slow growing which relatively produces lesser yield, and it is a tall plant that is resilient to moderate flooding. Black rice is heirloom rice and was grown in earlier times in history, but it is not produced on a large scale in modern agriculture.



Why Black rice is called as Forbidden rice?

Black rice is called as "Forbidden rice" or "Emperor's rice" as in ancient India it was only allowed to be consumed by the Emperor's and his cohorts to ensure their health and

longevity. So, it was forbidden for anyone else to have. But nowadays, black rice is highly popular and having high demand because of its high nutritional value.

Nutritional facts of Forbidden rice

Black rice is deep black in colour and it changes into purple hue when cooked. The pericarp (outer part) of kernel of this rice colour is black due to a pigment known as anthocyanin, an antioxidant. The anthocyanin content in Black rice is about 3%. Because of the presence of antioxidants and phenolic compounds the demand for black rice is increasing in today's world. Black rice contains high degree of cancer preventing agents, proteins and dietary fiber. It has higher amount of antioxidant which is known as anthocyanin and tocopherols (which is one of the most powerful antioxidants which is also known as vitamin E). Nutritionally, black rice has a low Glycemic Index (GI) of 42.3 which contains three times as much fiber as white rice.

The following nutritional composition is provided by the USDA for 100g of medium grain (uncooked) black rice and white rice.

Nutrition facts of Black rice Vs. White rice		
	Black rice	White rice
Energy	356 kcal	365 kcal
Protein	8.89 g	7.13 g
Total lipid (fat)	3.33 g	0.66 g
Carbohydrates	75.56 g	80 g
Total dietary fiber	2.2 g	1.3 g
Sugars (including NLEA)	0 g	0.12 g
Calcium	0 mg	28 mg
Iron	2.4 mg	4.31 ,g
Sodium, Vitamins, Fatty acids, Cholesterol	0 mg	0 mg

Black rice: Health benefits

- According to Food Science at Louisiana State University, USA, black rice contains more anthocyanin antioxidants and anti-inflammatory actions capable of fighting

against cancer and heart disease. Antioxidants are the first line of defense against free radical damage and are critical for maintaining optimum health and well-being.

- Taking black rice in a regular diet helps to prevent many non-communicable diseases (NCD) like cancer cells, atherosclerosis, diabetes, and osteoporosis.
- Black rice has anti-inflammatory properties. Its rice bran can reduce inflammation at a cellular level, which reduces systemic inflammation within the body and acts as a therapeutic agent for the treatment of inflammatory diseases.
- Black rice contains twice the amount of fiber content in brown rice, promoting gut health and aiding digestive processes.
- Black rice is a rich source of dietary fiber, which is linked with preventing heart disease, high blood pressure, stroke, and elevated blood sugar levels.

Conclusion

Black rice contains higher levels of proteins, vitamins, and minerals than common white rice, which is also an excellent alternative to white rice and brown rice due to its high nutritional composition, fiber content, and antioxidant content. Black rice is not so prevalent among farmers because of its low yield and more cooking time than other types of rice; secondly, people are not familiar with its texture and appearance. Currently, black rice is regarded as a nutraceutical and functional food because, beyond the supply of nutrients, it involves the prevention and control of several diseases.