

Nutritional benefits of black rice

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Introduction

Black rice (*Zizania aquatica*) is a variety of rice which was formed due to mutation in Kala4 gene, which activates the production of anthocyanin. Black rice is also named as Forbidden Rice in ancient China as people belonging to upper class only could afford to eat it. The bran hull of black rice contains high level of anthocyanins. Anthocyanins are water-soluble vacuolar pigments with potent antioxidant properties which are responsible for its black-purple colour. When compared to white rice, it has more protein, fibre, vitamins and minerals. Two major amino acids present in black rice are lysine and tryptophan. China bags first position in its production with 62% in world. In India, it is cultivated in North-eastern states like Manipur (known as chak-hao), Meghalaya, Mizoram and Assam. It is considered as blood tonic, used as a medicine for diabetic patients and traditionally given to pregnant women. Black rice has anti-inflammatory, anti-diabetic and anti-carcinogenic properties. It is also preferred in making dessert, porridge, traditional black rice cake, noodles and bread.



Geographical distribution

Black rice is believed to be originated from ancient China. It is cultivated in Southeast Asian countries like India, Indonesia, Thailand and China. Black rice is a rare and old variety of rice which has been growing in India for centuries. Black rice is indigenous to north-east India

and is grown in West Bengal, Odhisha, Jharkhand, Manipur, Mizoram and parts of Assam. It is commonly eaten in Manipur because of its medicinal properties.

Famous varieties of black rice

- Indonesian black rice
- Philippine balatinaw rice
- Thai jasmine rice

Nutritional value

USDA Nutrition Value per 100g

Name	Amount	Unit
Energy	356	kcal
Protein	8.89	g
Total lipid (fat)	3.33	g
Carbohydrate, by difference	75.56	g
Fibre, total dietary	2.2	g
Sugars, total including NLEA	0	g
Calcium, Ca	0	mg
Iron, Fe	2.4	mg
Sodium, Na	0	mg
Vitamin C, total ascorbic acid	0	mg
Vitamin A, IU	0	IU

Fatty acids, total saturated	0	g
Fatty acids, total trans	0	g
Cholesterol	0	mg

Health benefits

Antioxidant properties

Black-purple colour of rice indicates high levels of antioxidants which is beneficial for eye, skin and immune health.

Anti-carcinogenic properties

Black rice decreases atherosclerotic plaque formation in the arteries which helps in keeping arteries clear and prevents heart attacks.

Helps in Liver detoxification

Antioxidant activity of black rice extract regulates the metabolism of fatty acids and reduce the levels of triglyceride and total cholesterol which results in reducing the risk of fatty liver disease.

Prevent diabetes

It takes longer to digest to make sure that the sugar in grain is absorbed over a longer period which maintains the normal blood sugar levels.

Improves eye sight

Nutrition

Black rice is a rich source of anthocyanins, fatty acids, amino acids, antioxidants, flavonoids and other phenolic compounds. A mix of 18 essential and non-essential amino acids are present in the black rice which are important for the functioning of our body. Black rice contains following nutrients:

Beta-carotene

Calcium

Chromium

Copper

Iron

Lutein

Manganese

Magnesium

Niacin (B3)

Potassium

Phosphorus

Riboflavin (B2)

Vitamin E

Zeaxanthin

Zinc

Nutrients per Serving

A cup of black rice contains:

Calories: 160 grams

Protein: 5 grams

Fat: 2 grams

Carbohydrates: 34 grams

Fibre: 6 grams

Potassium: 268 grams

Sugar: 0 grams



Cholesterol: 0 milligrams

Sodium: 4 milligrams

Comparison between different types of rice

Serving size: 100gm

Rice type	Protein content (g)	Iron (g)	Fibre (g)
Polished white rice	6.8	1.2	0.6
Brown rice	7.9	2.2	2.8
Red rice	7.0	5.5	2.0
Black rice	8.5	3.5	4.9

Conclusion

Black rice is a variety of rice which got its name because of the anthocyanin pigment present in it. Black rice has several promising health benefits because of being a rich source of various nutrients. It is a rich source of Vitamin E, calcium, potassium, protein, fibre and is deficient in sugar and cholesterol levels. It is used to prevent diabetes, improves eye sight, and is traditionally given to pregnant women in Manipur to reduce the chances of complexity



during pregnancy. Black rice has antioxidant, anti-carcinogenic and several other properties which makes it better than other types of rice and by taking into account its nutritional value, is considered as super food.