

# KALABATI: THE BLACK MIRACLE RICE VARIETY

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## INTRODUCTION

Rice is the major crop grown in many developing countries and near about 90% of the production is seen in Asian countries. A large portion of the growing population consumes rice as a source of carbohydrate. The most widely grown rice is white rice but other pigmented rice such as black and red rice varieties are available. Black rice is a type of normal rice species *Oryza sativa* L. which has black pericarp, glutinous, long grain, smooth texture and enriched with high nutrients grown particularly in Asia. The pericarp of the rice is black in colour due to a pigment known as anthocyanin (a flavonoid) that act as antioxidant in body and it is open pollinated as well as ancient in nature. The black color turns deep purple or violet after cooking. Black rice is now called as extreme super miracle food as it is the rich source of fibre,

vitamin E, B, antioxidants, 18-amino acids, magnesium, niacin, phosphorus as well as it is anti-inflammatory, anti carcinogenic property rich that fights diabetes, cancer, heart diseases having major demand in USA and European Countries. The major uses and origin of black rice is spreaded all over the world. Black rice in Manipur is eaten at large and called "Chakho ambi" which means delicious black rice. In India it is mostly grown in Assam, Odisha and other parts of India.



## GERMINATION PROCESS OF KALABATI RICE

It is a variety of black rice having medium grain in nature and prefers warm climate with long growing seasons of 3-4 months. Successful germination requires 21°C with full water availability and brighter sunshine period.

### Steps for germination

1. Soak the seeds in water container for 24 hours and remove the other seeds, floating seeds from the top.
2. Cover the seeds properly and keep it as such for one day and temperature between 20-26 degree celcius is best for germination.
3. Remove other weed seeds and make a rack of vermicompost or compost of one inch on which seeds should be in spread condition.
4. Plant the seeds just below the compost layer in soil in proper position, water regularly ffor germination which takes about 1-2 weeks.



# GENERAL FEATURES OF KALABATI RICE

Kalabati rice is one of the local rice variety widely grown and it is about 5-7 feet in height. Kalabati takes around 150 days duration, having mix green and purple leaves, prefer medium type land. The number of tillers is around 20-35 in maximum. When the plant takes about 2-3 feet height maximum vegetative growth is seen after about 2-3 months of growth.

Nutritive Value of Rice

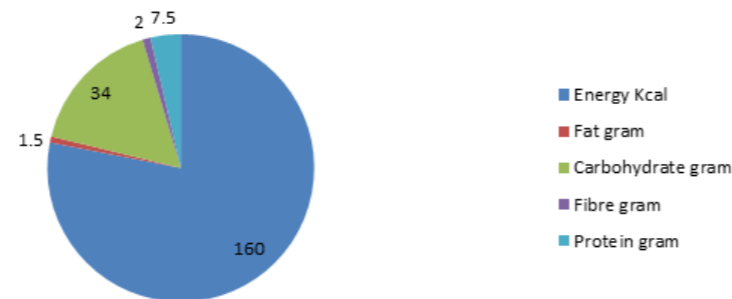


Fig 1: Nutritive Value of Black Rice

# DIFFERENT TYPES AND VARIETIES

- 1. Black Glutinous type Rice:** Short grain, sticky, sweet flavor and sticky texture in nature.
- 2. Black Japonica Rice type:** It has both short and medium grain rice with mild flavor.
- 3. Italian Black Rice type:** It has long grain with rich buttery flavor blended in grain.

# AROMATIC COMPONENT OF RICE:

Black rice has strong aroma with 35 volatile compounds out of which 10 Aromatic, 4 nitrogen based, 6 alcohol, 10 aldehyde based, 3 ketones and 2 terpenoid compounds present in it. The concentration of 2-acetyl-1-pyrroline which is the main aromatic compound along with guaiacol compound is more in black rice as compared to white rice.



Fig 2: Kalabati Black rice grains

# HEALTH BENEFITS:

## 1. Heart and cardiovascular disease prevention:

Consumption of black rice prevents heart diseases as presence of antioxidant anthocyanin lowers cholesterol level thereby reducing chances of atherosclerosis in heart. It lowers blood pressure with minimizing cholesterol absorption.

## 2. Anti-inflammatory:

Black rice has anti-inflammatory property which can be used against chronic diseases. The main content for anti-inflammation is C3G which suppress the bad condition in body.

## 3. Anti-diabetic and Anti-cancerous:

Antioxidant present in black rice help body to make it free from free radicals which damage the cell to prevent cancer development. Black rice stops and repairs the DNA damages along with stops tumor metastasis in particularly breast cells of women. Black rice has more fibers, less sugar which control and manage the sugar levels in human body.

## 4. Manages Body weight:

Black rice helps to reduce the body weight by regular consumption. It is unpolished and rich in fiber components and helps in good bowel movement. It helps in detoxification.

## 5. Anemia control:

Black rice is rich in iron content. The form of iron in black rice is easily absorbed by body and thus maintains the iron deficiencies in body. Therefore it is beneficial for people suffering from anemia.

## 6. Reduces allergy:

The black rice has miracle property to reduce the conditions that form allergies and other illness. The husk of rice may help to stop the release of histamine compound. Histamine is major responsible for allergies.

## 7. Prevents Constipation:

Black rice is rich source of dietary fibers in it which helps the patients in excellent bowel movement and reduces the constipation.



## 8. Skin and hair care management:

Antioxidants present in black rice protect the body from damage caused by free radicals. Antioxidants prevent skin ageing, hair fall and promote good health of hair and skin. It helps in proper health and growth of hair, prevents dandruff and dryness. The wrinkles development on skins is also prevented by consumption of black rice.

### Other Culinary uses:

Black rice is used for preparation of sushi, black rice cake, puddings, noodles, biscuits. It is also used to make black rice pasta, wine, chocolates, bread, chips as well as natural dye making. Different designs and decorative methods also use black rice use in it.

## CONCLUSION

Black rice has been considered as miracle rice or super food as it is full of healthy benefits, nutrients, anti oxidants. Regular and daily consumption of black rice completely cures Alzheimer's disease, prevents heart diseases, diabetics, reduces cancer, reduces allergies and manages body weight. The demand and growth of black rice cultivation has been wide spread in all over the world. Due to its unawareness and lack of skill techniques for its production hampers the growth. Black rice variety kalabati has been popularly grown in all over India and can be a revolutionary product of nature in field of curing various diseases and providing better sustainability in production and profit to farmers. The government should give more emphasis on awareness programmes and training to farmers to make them sustainable in becoming the producer.

