

MAKHANA: IMPORTANCE AND USES

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INTRODUCTION

Makhana (*Euryale ferox*) is an aquatic crop with chromosome number $2n=58$ belonging to the family Nymphaeace. It is commonly known as Gorgon Nut. It is believed to native of Eastern Asia from china or India but it is distributed to all parts of world. It generally produces edible nut and it is superb medicinal plant used in ancient medicine in India and China 3000 years ago. Makhana seeds which are small and round having black to brownish outer layer is the edible part of the plant, which is consumed in the form of popped lava after processing. This nutritious crop is cultivated in both pond and field system. Large numbers of ponds are available for makhana cultivation in districts of Darbhanga and Madhubani. In ponds, transplanting is not required since seeds of last season germinate during the main cropping season.

IMPORTANCE AND USES

From edible approach, makhana is considered as a better quality dry fruit, as it is endowed with several rich and nutritional ingredients. It is extremely nutritious food and a very good source of carbohydrate, protein & minerals. It contains 12.8 % moisture, 76.9 % carbohydrate, 9.7% protein, 0.1% fat, 0.5% total minerals, 0.02% calcium, 0.9% phosphorus and 0.004% iron. The calorific value of raw and popped seeds of makhana is 362 and 328 K/100g.

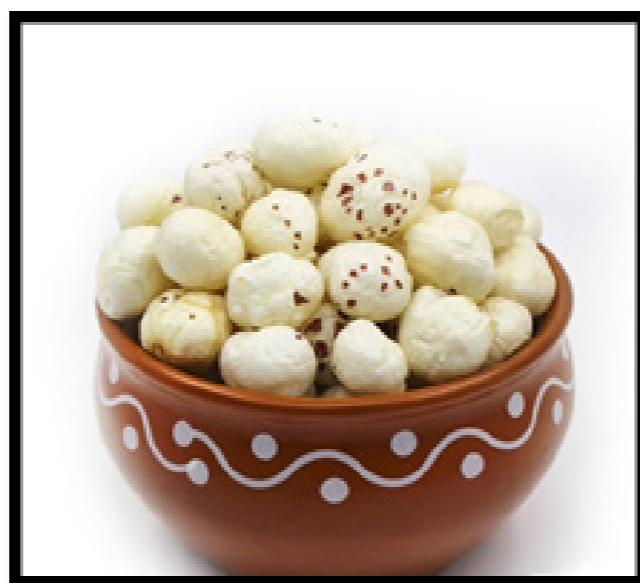


Table 1: Nutritional content of raw and popped makhana

| Parameters | Raw makhana | Popped makhana |
|------------------|-------------|----------------|
| Carbohydrate (%) | 76.9 | 84.9 |
| Protein (%) | 9.7 | 9.5 |
| Fat (%) | 0.1 | 0.5 |
| Moisture (%) | 12.8 | 4.0 |

In Indian and Chinese ancient literature, the medicinal properties of makhana are well recognized. The seed is analgesic and aphrodisiac. It is used in the treatment of chronic diarrhea, impotence, premature and involuntary ejaculation, vaginal discharge, nocturnal emissions and kidney weakness associated with frequent urination. In the preparation of number of ayurvedic medicines, the seeds of makhana are used. Makhana alleviates Vat and Pitta dosha. It is an important herbal preparation, used for erectile dysfunction. It is very useful for women during pregnancy and post natal weaknesses.

It is harvested from the stagnant wetlands and in whole process of its cultivation no utilization of fertilizer or pesticides is made. After harvesting, the leaves and stems remained in the same water bodies which prove as fertilizer for the next crop. Hence it is called a “purely organic crop”. Being a herb, makhana is one of the major ingredients of herbal medicines. It is one of the most essential ingredients of herbal medicines. It is one of the most essential ingredients for delicious food preparations. Makhana kheer and sewai made of makhana is not only a tasty but also digestive a best itself. It is used in milk based sweets (inpudding). In Manipur almost matured fruits before their bursting are sold as prime vegetable in the markets.



The makhana bran can be also used as a complete food for livestock and poultry, which is considered as a waste material. The outer crust constitutes about 4.98-5.46% of the popped makhana. Makhana bran constitutes 89.2 % dry matter, 7.1 % protein, 0.62% fat and 94.4 % organic matter. Generally, makhana is consumed as a non-cereal food by devotees during their fasts. Feeding of makhana bran to birds and livestock resulted into higher growth rate and milk yield along with nutrient digestibility. After preparation of makhana flour, different sweets i.e., makhana barfi and makhana kalakand and snacks like makhana wheat chapatti (1:1) and makhana cabbage pokora can be prepared by the mixing makhna flour to other edible flours in different proportion successfully.

CONCLUSION

It may be concluded that Makhana based products are low in sugar content but had moderate calorific value besides resultant products had very good expansion, color which may attract health conscious people appreciably.