

Nutritional Potential and Health Benefits of Taro *Colocasia Esculenta* (L.): A Review

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SUMMARY

Colocasia esculenta tubers provide a numbers of desirable nutritional and health benefits such as anticancer activity, phenolic acid, and phytochemicals. It can be grown as a root crop, as a leafy vegetable, as an ornamental and as medicinal plant. In this review there is important information about taro nutritional importance and the some of the health benefits of taro corms and leaves. This crop is highly adapted to the tropical agro-climatic environment and can grow in great abundance with little or no artificial input.

INTRODUCTION

Taro (*Colocasia esculenta*) is a member of the Arum Family (*Aracea*). It is a vegetative propagated tropical root having its origin from South-east Asia. Taro tubers are important sources of carbohydrates as an energy source and are used as staple foods in tropical and subtropical countries. It is largely produced for its underground corms contain 70–80% starch. In recent years food scientists have increased the research in a micronutrients and bioactive compounds. Green leafy vegetables are known for the nutritional and medicinal properties. *Colocasia* is an ancient green leafy vegetable which is found in the tropical countries throughout the world. It is known with different regional names throughout the world. It is commonly known as taro (English); *aravi* (Hindi) and *alupam* (Sanskrit) and Alu (Marathi). It is a tall and perennial herbaceous plant growing throughout India (Prajapati *et al.*, 2011).



Fig1. *Colocasia esculenta* Leaves

Production and Distribution:

Nigeria is the highest producer of th *Colocasia* followed by China and Cameroon (FAOSTAT, 2018). In India major colocosia producing states are Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Orissa and Chhattisgarh (Gupta *et al.*, 2019). It is underutilized plant in many parts of India.

Nutritional Aspects:

Fresh *Colocasia* leaves have a high moisture content of 79.83%–90.6%. The leaves have protein content in the range of 18–30.7 g 100 g⁻¹ (DM) that can form a significant source of important amino acids in vegan diets. *Colocasia* leaves house major amino acids like leucine, isoleucine, valine, phenylalanine, and tryptophan (Longvah *et al.*, 2017). The protein and dietary fiber content of raw *Colocasia* leaves are higher than other

important green leaves. The leaves have a good amount of niacin. Niacin plays a major role in the regulation of metabolism. It is also found to prevent and treat hepatic and cardiovascular diseases (Ganji *et al.*, 2014). The zinc content of the leaves ranges from 0.6 to 4.2 mg 100 g⁻¹. It can help in boosting the immune system along with other micronutrients. Total polyunsaturated fatty acids (TPUFA) content of *Colocasia* leaves is about 48%–57% higher than other green leaves, providing evidence for it being a heart-friendly food.

Nutritional components in Colocasia corm

The corm of taro is relatively low in protein (1.5%) and fat (0.2%) and this is similar to many other tuber crops. It is a good source of starch (70–80 g/100 g dry taro), fiber (0.8%), and ash (1.2%). It is also a good source of thiamine, riboflavin, iron, phosphorus, and zinc and a very good source of vitamin B6, vitamin C, niacin, potassium, copper, and manganese (Quach *et al.*, 2003). *Colocasia* can also be used for entrapment of flavouring compounds (Tari *et al.*, 2002). Taro is rich in digestible carbohydrates and micronutrients (Vinning, 2003). Taro contains antinutrient factors such as: oxalate, Phytate and tannin.

Chemical composition of Taro

Taro corm has been reported to have 70–80% (dry weight basis) starch with small granules (Jane *et al.*, 1992). Because of the small sizes (1–4 µm in diameter) of its starch granules, taro is highly digestible. It is widely used in baby foods and the diets of people allergic to cereals and children sensitive to milk. Taro starch, in view of its small granule size, has also been used for industrial applications (Wang, 1983). Taro starch is easily digestible, the starch grains are fine and very small, it has hypoallergenic nature (low tendency to cause allergic reactions) and also the starch is gluten free (Jane *et al.*, 1997).



Fig.2 *Colocasia esculenta* corm

CONCLUSION

This review tried to address important information about taro nutritional importance and related information on its cultivation, post harvest management, processing possibilities in order to prolong the shelf life of fresh taro corm. Moreover, from the review important information's are organized to show the nutritional, ant-nutritional components of Taro. Underutilized crops such as taro have much importance in ensuring food security, in earning foreign currency as being a cash crop and also as a means for rural development. Most rural peoples suffer from malnutrition not because of the economic status but because of inability to utilize the available nutritious underutilized crops such as taro to meet their daily requirements. To meet the nutritional demand there must be a need to see the economic and nutritional impact of indigenous fresh underutilized crops such as taro for its production and consumption in rural communities. Therefore it can be goodness for malnutrition and food insecurity for rural peoples as rural food sources.

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