IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

# Nutritional Potential An Indian Pumpkin (Cucurbita Pepo).

**Dr. Manmohan S. Bhaisare**

**Department of Botany Late. Nirdhan Patil Waghaye Science Collage Lakhani**

*Abstract:* The study indicated that fruit of Cucurbita pepo, Mean pumpkin contain rich amount of nutrient like Tannin, Calcium, Potassium, Magnesium, Phytate, Fiber and Oxygen. Today Pumpkin used as a dietary food. The presence of these phytochemical explained the medicinal action of the Cucurbita fruit encounter in its therapeutic use. The proximate moister content and anti- nutrient mineral like, Protein, Carbohydrates evaluated after characterization they show phytonutrient and anti-nutriant activity content in pumpkin. These result reveled that pumpkin fruit contain rich amount of nutrient and therefore can be included in diets to supplementary our daily nutrient need.

**Key words:** Nutritional, Potential, Pumpkin, Phytochemical, Proximate composition.

## INTRODUCTION

A Pumpkin is a trailing plant or an annual vine. The unripe fruit is often cooked as vegetable is used in various beverage and confectionary. Pumpkin fruit contain constituent like B-Carotene, Carbohydrates, Vitamin and Mineral[1].

The Cucurbita pepo var. fastigata belong to the Cucurbita family which consist of 130genera and 800 species.[2].

Pumpkin is a vine crop and its play an important role in traditional setting as a cover crop and weed control agent.[3].

Literature reveals the traditional use of the various part of the plant by Ayurveda and Chinese system as anti-inflammatory, analgesic, antidiabatic, antiulcer and antioxidant. The fruit is used as a fatigue and thirst, act as a blood purifier, treats cold. The seed are diuretic, helpful in headaches neuralgia, bronchitis, fever, gastritis

burn febrile disease, irritable bladder and prosthetic complains. The seed are also beneficial to spleen, lungs and act as taenicide. The leaves are used for the treatment of nausea and help to boost hemoglobin.[4]

In Africa traditional vegetable are an important source of nutrient and vitamin for a ruler population, as many nutritional studies have shown.[5].

The methanolic, chloroform and ethyl acetate extract of C.pepo fruit significantly reduced the paw swelling in mice dose dependently suggesting the immune-modulatory effect of extract and can therefore, act as immune-nutrients.[6].

Available data on the more commonly consumed varieties point to antioxidant containing leafy vegetables that can also provide significant amount of b-carotene, iron, calcium and zinc to daily diets.[7].

Antioxidant defense system play a key role to overcome different disease caused as a result of free radical by neutralizing the excess of free radical. An anti-oxidant is a molecule stable enough to donate an electron to a rampaging free radical and neutralize it, thus reducing its capacity to damage. These anti-oxidant delay or inhabit cellular damage mainly through their free radical scavenging property.[8].

**RESEARCH METHODOLOGY**

Cucurbita pepo were collected from agro-ecological zone of Lakhani tahasil of Bhandara Dist. Were the crop is cultivated. The fruit were harvested at matured stage the fruit were clean with water and grind in to a fine pest for sample. The sample put in a plastic bag and labeled.

**Analysis of sampal;** for nutritional composition the sample past determine to obtained the value of moisture content, dry matter, crude fiber, ash, crude fat, carbohydrate ,protein, ascorbic acid, lycopene ,betacarotene, potassium, calcium, iron, phosphorus, sodium, phytate, tannin content.

Following procedure describe by AOAC(1995) for moisture content was determined by drying a material in air oven for about $130^0$ C for one hour. Crude fiber content was determined using dilute acid and alkali hydrolysis. Ash was determined by incineration of 10g of each sample placed in muffle furnaces at $550^o$ C for five hour. Crude fat was extracted by 10g of each sample in a Soxihlet apparatus using dimethyl ether boiling at 30-$60^0$ C in the solvent. Carbohydrates contain on dry weight basis calculated by the difference [100-(crude protein +fats + ash +fiber)]. Crude protein content describe by micro Kjedahl method percent of total nitrogen x 6.25.

**Miniral content;** like Fe, Ca, Na, K, P were determine by Bochringer (1979) and AOAC(1990) Method**.**

**Phytate and Tannin composition** determined by the procedure of Young and Greaves (1940) was used for extraction and precipitation to determine phytate. Quantitative estimation of Tannin carried out by using method of Makkar and Goodechild (1996) and Hageman and Ler (1983).

**Ascorbic acid, Carotenoid and Lycopene determined**; ascorbic acid is a Vitamin C, MG/100G content was estimated titrimatically using 2,6 dichlophenol dye as described by Ranganna (1977). Total carotenoid were extracted and partitioned in acetone and petroleum ether and estimated spectrophotometrically as described by Gross (1991). Lycopene was extracted and partitioned in acetone and hexane respectively and estimated spectrophotometrically as described by Taungbodhitham et.al.(1999) and Britton et.al.(1996).

## RESULTS AND DISCUSSION

The study of Nutritional Potential an Indian Pumpkin (Cucurbita pepo), was show that fruit evaluated high value of Moisture content, Crude Fiber, Total Ash, Carbohydrates , Ascorbic acid Tannin. The moderately sufficient amount Protein, Lycopene, Beta carotene, K, Ca, Fe, Na, P and phytate. The study was also recorded lowest value of fat content in fruit.

The highest moister content in fruit implies short fruit life. The moister content of any food is an index to measure stability and susceptibility to microbial contamination. High moister content in fruit mean to dehydration, so there is need to improve self-life of fruit from preservation to store in cool condition.[20]

Crude fiber content in fruit was high. Fiber help in maintenance of human health and reduced cholesterol level in the body. Fiber is a part of food, that is undigested by human being, but the normal functioning of the intestinal tract.[21].

The Ash value was high in fruit is reflected to mineral content in fruit, which preserve food material recommended suitability in human feed.[22].

The value of crude fat in pumpkin was recorded low, this may be an advantage for people suffering from obesity. A diets providing 1-2%of its caloric energy is sufficient to human being. Excess consumption of fat lead to implicated in certain cardiovascular disorder such as artherosorasis, cancer and aging. Therefore pumpkin diet should be encouraged to reduce the risk of disease of man.[23].

The high amount present of protein in fruit indicated that pumpkin may be cheap source of protein for community, reported as a diet is nutritionally satisfactorily. They have 12 % of caloric value as considered good source.[24].

Phytate and tannin present moderately amount in pumpkin , phytic acid show complicated effect on human system like indigestion of food and flatulence. Tannin usually form insoluble complexes with protein. Tannin are capable of lowering availability protein by analgeonstic competition therefore elicit protein deficiency syndrome. The amount of phytate and Tannin reported were well that would adversely effect. Their nutritional value or cause any toxic effect associated with anti-nutrients. This would mean that he pumpkin fruit will not affect human nutrition if consumed in large quantity.[25].

The sufficient amount of Ca. Fe. Ascorbic acid found in pumpkin. The desirable amount of Ca and Fe in the food have been reported to destructive effect on the ascorbic acid.[26]. Pumpkin provided valuable source of Lycopene and carotenoid, ascorbic acid, they play major role in nutrition in the form of provitamin A and vitamin C as a antioxidant when used at ripening stage.[27].

The sufficient amount of potassium, phosphorous, sodium, calcium, iron found present in pumpkin fruit are essential for human nutrition. These mineral play a vital role for overall mental, physical wellbeing and are important constituent of bone, teeth, tissue, muscles, blood, nerve cell. They help in maintenance of acid-base balance, response of nerve to physiological stimulation and clotting.[28].

## CONCLUSION

With respect to mineral, phytochemical and anti-nutrient material present in fruit of pumpkin, the study revel that the differentiation in carotenoid, phosphorous, tannin and ascorbic acid. Also Fe, P, Beta-carotene, Lycopene, Sodium with Phytate. Such type of nutritional food found present in pumpkin fruit, which contain amino acid are important for human health. Food of pumpkin is a dietary food can be eaten by making juice and cooking as a food result of its hematic and analgesic properties.

## REFERENCES

**1. Yadav M. Jain S. Tomar R.GB, Yadav H.(2010)** Medical and Biological potential of pumpkin. An updated review Nutrition research Dec. 23(2).184-90.

**2. Diman K. Gupta A. Sharma DK. Gill N.S. Goyal A. (2012).** A review on the medicinally important plant of the family Cucurbataceae. Asian J. Clin Nutr 16-26.

**3. Delahaut K.A. Newenhouse AC.(2006).** Growing pumpkin and other vine crops in Wisconsin. A guide of fresh market grower A3688,Extension publication22pp.

**4. Martha,R.Gutierrez,P.(2016).** Review of Cucurbita pepo, its photochemistry and pharmacology, MED Che; 12-21.

**5. Mosa, T.C.and Gaga H.F.(1999).** Nutritive value, effect of balancing on trypsin and chymo trypsin inhibiter activity of selected leaf vegetable. Plant food for human nutrition.54;271-283.

**6. Jafarian A, Zolfaghari B, Parnianifard M(2012).** The effect of methanolic, chloroform and ethylacetete extract of Cucurbita pepo L. On the delay type hypersensitivity and antibody production. Res Pharm. Sci. 7;217-24.

**7. Smith IF, Eyzaguirre P.(2007).** African leafy vegetable. Their role in the World Health Organization Global fruit and vegetable Initiative. Africa J. F. A. Nutr. Dev.7(3).

**8. Halliwell B.(1995).** characterize an antioxidant; an update, Biochem Soc Symp61;73-101

**9. AOAC(1995).** Official method of analysis (16th End.) Association of officiating Analytical Chem. International, Arlington, USA.pp31-65.

**10. Kjedalh (1883)** method for the determination of nitrogen and protin. hhttp/ www. geherdt. d

**11. Bochringer M(1979).** Gmb. H. Diagnostia,6800 Mannheim 31,Germanic, cate. no.124974.

12. **. AOAC(1995).** Official method of analysis (15th End.) Association of officiating Analytical Chem. International, Washington D.C; PP 210.

**13. Young SM. Graves JS(1940).** Influence of verities and treatment of phytin content of wheat. Food Research Journal 5;103-105.

**14. Makkar ADS, Goodchild AV. (1996).** Quantity of Tannin. International chapter for Agriculture research in the dry areas Allepo Syria. 25pp.

**15. Hgerman AE. Ler IG(1983).** Method of preparation for qualitative determination of Tannin Journal of Agriculture Food Chemistry. 26;809-812.

**16. Ranganna S. (1977).** Plant pigment, Handbook of Analysis and quality control for food and vegetable product, Mc Grew Hill Pub.Cd. List New Delhi, pp. 1-1112.

**17. Gross J (1991).** Carotenoids pigment in vegetable. Chlorophyll and Carotenoids, van Nostrand Reinhold, New York.351pp.

**18. Taungbodhitham AK. (1999).** Evaluation and Extraction method for the analysis in fruit and vegetable. Food Chemistry; 63; 577-584.

**19. Britton G. et.al. (1996).** Carotenoids, Birkhauser Verlag Basil, pp. 13-62.

**20. Thampson A. K. (1996).** Postharves treatment, in Postharves Technology of fruit and vegetable, Blackwell Science Ltd. Combridge, Mass. Pp.95-128.

**21. Bello et.al.(2008).** Studies on the chemical composition and anti-nutrients of some known Nigerian fruit. African Journal of Biotechnology 7;(21),3972-3979.

**22. Pomeranz, Chifton D(1981).** Properties of defatted soyabin, peanut yield flours. Journal of food science 42; 1440-1450.

**23. Antia BS.(2006).** Nutritive and anti-nutritive evaluation of sweet potato (Ipomea batatas) leaves. Pakisstan Journal of Nutrition, 5;166-168.

**24. Ali A. (2010).** A comparative study of nutrients and mineral molar ratio of some plant food with recomandated dietary allowance. Journal of Food Science and Technology. 2;(2).104-108.

**25. Mehansho, et.al (1987).** Dietary tannin and salivary proline rich protein; Interaction, induction and defense mechanism. Anmol Review of Nutrition. 7;423-430.

**26. Lajide et.al. (2008).** Vitamin C, Fiber, Lignin and mineral content of some edible legume seedling. Journal of food Technology 6;(6), 237-241.

**27. Pande et.al. (2003).** Acrobats and carotenoids in an Indian collection of pumpkin. 26;51-53.

**28. Hanif et.al.(2006).** Use of vegetable as Nutritional food; Role in human health, Journal of Agriculture and Biological Science 1; (1),18-20.