AgriCos e-Newsletter
ISSN: 2582-7049
www.agricosemagazine.com
Volume: 01 Issue: 02 June 2020 Article No: 16

Overlook on Nutritional Composition and Benefits of Watermelon Seed

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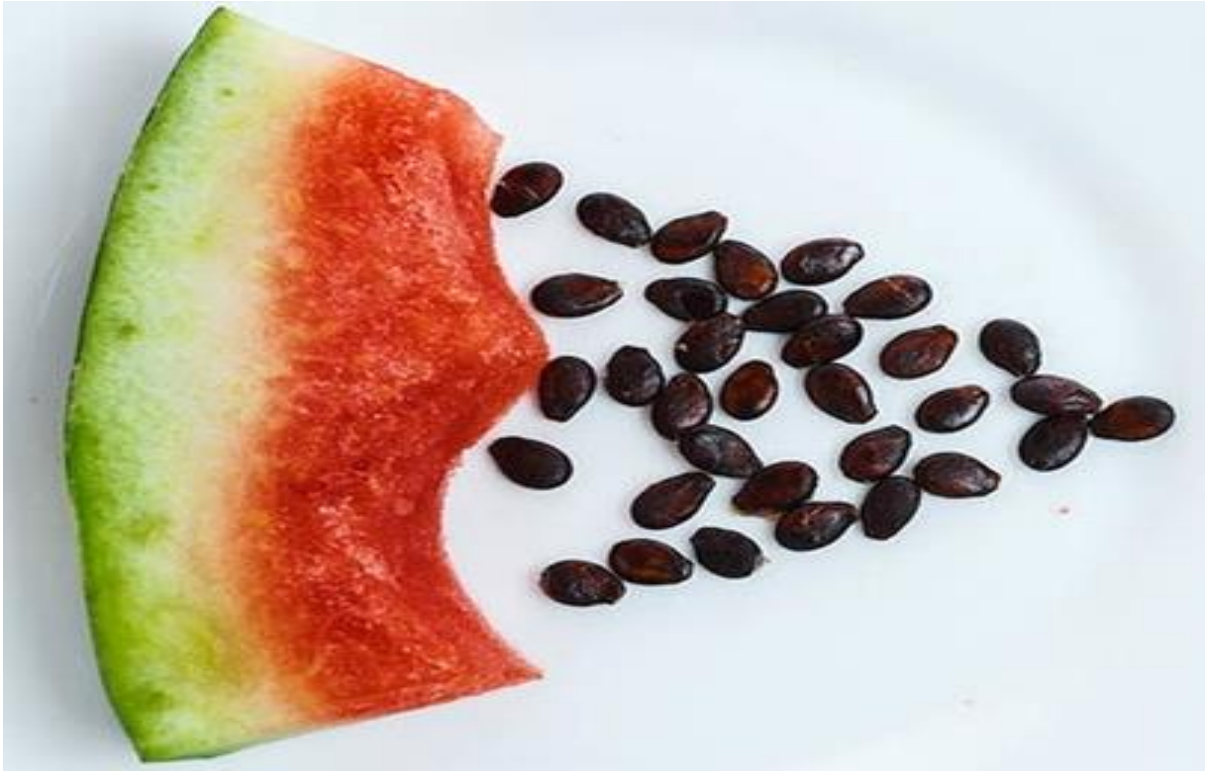
SUMMARY

The watermelon seed is considered as waste and due to which it is always unutilized and not exlored. The kernels are sometimes used as dressing for bread, cake, confectionery, sweetmeats and snack foods, often in place of almonds and pistachio. The physical properties of watermelon seeds are essential for the design of equipment for handling, processing, storing, sowing the seeds, and are the most important factors in determining the optimum vacuum pressure of the precision vacuum seeder. The paper will discuss about the nutritional, phynutrical and medicinal values of the watermelon seeds.

INTRODUCTION

Watermelon (Citrullus lanatus) a fruit crop, belongs to the family cucurbitaceae. It is mainly propagated by seeds and thrives best in warm areas. It is a tropical plant and requires a lot of sunshine and high temperature of over 25°C for optimum growth. Recently more attention has been focused to recover valuable components from neglected food parts“wastes”, “by-products” or “wasted by-products”) and them inside the food chain, in an economic and sustainable way. In food industry, water melon pulp is used for preparation of cocktails, juices and nectars. The rind and seeds are usually discarded. watermelon seeds are rich in fats and proteins and can be added in different foods as a protein source and fat replacement. The seeds are flat brown in color have a nice nutty taste and have a good food value then the flesh. Watermelon seeds are known to be highly nutritional; they are rich sources of protein, vitamins B, minerals (such as magnesium, potassium, phosphorous, sodium, iron, zinc, manganese and copper) and fat among others as well as phytochemicals.



Nutritional value:

The physical properties of watermelon seeds vary from variety to variety and it is also a function of the seed moisture content and represented in table 1.

Table 1: physical properties of watermelon seed

Sr. No.	Parameters	Value
1.	Length (mm)	15.597± 1.065
2.	Width (mm)	9.190± 0.691
3.	Thickness (mm)	3.107± 0.358
4.	Sphericity (%)	2.066± 0.028
5.	Surface area (mm^2)	157.905± 18.276
6.	True density (Kg/m^3)	861.754±10.417
7.	Bulk density (Kg/m^3)	416.333±9.239
8.	Porosity (%)	47.604±0.755

Table 2 represent proximate composition and mineral content whereas table 2 depicts hytochemical content of water melon seed reported by scientists. The reason for difference in values may be attributed to varietal and regional/soil differences.

Table 2: Nutritional comosition of watermelon seed

Sr. No.	Parameter	Values
1.	Moisture	6.4%
2.	Fat	47.1%
3.	Protein	68.4%
4.	Fibre	1.2%
5.	Ash	2.6%
6.	Carbohydrates	25.1%
7.	Calcium	150mg/100g
8.	Phosphorus	1279mg/100g
9.	Zinc	10.6mg/100g
10.	Potassium	3.57%
11.	Manganese	0.04 mg/100g
12.	Iron	3.71 mg/100g

Table 3: Phyto chemical content

Sr. No.	Parameter	Values
1.	Total Phenol (mg GAE/100g)	3949±89.71
2.	% DPPH Inhibition	70.06±0.56
3.	Trolox equivalent (µMTE/g)	96.63

Bioactivity of watermelonseed

There are enormous benefits of consuming watermelon seed and different extracts and part of seeds few are enlisted below

1.Antiinflammatory activity
2.Antioxidant activity
3.Antiulcer activity
4.Antimicrobial activity
5.Hepatoprotective activity
6.Antiplasmodic
7.Anti-diarrhoeal

CONCLUSION

The watermelon seed can be used in extraction of protein concerntrate and isolate which is good relacement for regular protein. There are many bakery products like cookies, biscuits, breads and others where watermelon seed can be used with partial replacement of refined wheat flour which help to increase the protein and fat content of product as it is good source of essential fatty acids and amino acids. As watermelon seed is full of phytonutrients it can also be used as source against many diseases. The seeds can be cooked and dried and served as snacks in Egypt, Iran and might also be cooked, ground and fermented for use as a flavour enhancer in gravies and soups Watermelon seed can be used for extraction of its oil which is rich in vitamin E and has good humectant and moisturizing properties so it can be used as anti-inflammatory agent for skin care products. The oil can be used for modifying the properties of skin care products and used as modification oil.

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