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Assessment of Nutritional Content of the peel of *Solanum tuberosum*

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ABSTRACT:

Solanum tuberosum belonging to family Solanaceae is one of the most widely consumed vegetable food in the world. This special fruit vegetable is known to contain many nutritional benefits for its consumption. The fruit is commonly called to be a potato. However, in recent years the fruit is often used in many cooking recipe. Many a time the fruit is peeled off during a cooking process. While many literature surveys projects on the importance of the potato peel enriched in nutritional benefits for its consumption. The current research experiment is carried out to study the nutritional importance of the potato peel. The research experimentation carried out for assessing of nutritional elements such as Protein, carbohydrate, fats, fibres, ash and moisture gives successful results in terms of its richness beneficial for the health if consumed rather discarding it during cooking time.

Key words: *nutritional importance, potato peel, Solanum tuberosum.*

INTRODUCTION

Solanum tuberosum commonly known to be potato is a fruit vegetable and is used widely for consumption in a usual diet for the regular intake. This fruit vegetable is native to American and is specially known to be a tuber. The fruit cultivated world-wide through farming and agricultural practice on a large scale and is commercialized throughout the nation. This fruit vegetable is “commonly consumed” (Farvin, Sabeena & Alagarsamy, Surendraraj & Jacobsen, Charlotte) on a large scale. While, the cultivation process is easy and manageable for any farmer in various ways. Potato is known to be enriched in starch content. Also the peel of the fruit is well known for the nutritional benefits. Different research articles and varied researches

are completed on potato peel and this makes the point of attraction to explore more for a researcher to carry out further experimentations. Various bioactive compounds such as polyphenols and glycol-alkaloids (Schieber, Andreas & Marleny, bullet & Aranda Saldaña, Marleny D) are found to be enriched in the peel of the vegetable fruit. Such literatures on potato peel for its enrichment as anti-oxidant, phenolics, high fibre, multivitamins and minerals depicts the importance of the nutritional treasure of the peel. However, raw potato peels have high moisture and carbohydrate contents. Potato peels represent the major waste from the potato processing industry (Venturi, F.; Bartolini, S.; Sanmartin, C.; Orlando, M.; Taglieri, I.; Macaluso, M.; Lucchesini, M.; Trivellini, A.; Zinnai, A.; Mensuali). Hence the scope of working in depth and explore more for this research becomes of more important.

The current research criteria are carried out to study the nutritional benefits of the peel and further analyzing the sample through an *fssai* approved laboratory under food and drug regulations. The research experiment carried successfully concludes the enrichment of the peel beneficial for consumption by its nutritional results.

MATERIAL & METHOD

A raw potato peel considered as a sample for experimentation. The peel was kept overnight at room temperature. After 24 hours a fine powder of the peel was made and used for the experimental analysis. The sample tested for its nutritional profile in a *fssai* approved laboratory for the following elements given below.

Sr. No.	Quality characteristics	Name of method of test used
1	Carbohydrate	By difference
2	Protein	Kjeldahl method (AOAC,2005, 979.09)
3	Fats	Soxhlet method (AOAC 922.06)
4	Dietary fibre	Gravimetric/ Hot air oven method (AOAC,2005, 962.09)
5	Moisture	Hot air oven method (IS 4333, PART II)
6	Ash	Gravimetric method (ISO 2171:1993)

TABLE: 1.1

RESULT & DISCUSSION

The results obtained by carrying out the analysis of the peel is given below

Sr. No.	Quality characteristics	Results (%) / (mg) PER 100 GRAM
1	Carbohydrate	11.76 %
2	Protein	1.7%
3	Fats	0.02%
4	Dietary fibre	9.07%
5	Moisture	76.05%
6	Ash	1.4%

TABLE :2.1

The results show that the peel of *Solanum tuberosum* contains healthy nutritional elements required for one individual which can be obtained just through consumption. The results obtained show the highest amount of moisture content. It is also found to be enriched in carbohydrate and the dietary fibre content. However, the total fats is as least as 0.02% in 100 gm of sample which denotes to be a fat free diet if consumed on a daily basis separately other than the vegetable. While the protein element found to be 1.7% denotes it to be a source of moderate amount of protein engaged diet. The study conducted to analyze the elements from the experimentations carried under the protocol of *fssai* defines it to be a healthy dosage if consumed whenever the cooking process involves this fruit vegetable “potato”.

CONCLUSION

The Experimental research successfully concludes the importance of a peel of *Solanum tuberosum* due to its enrichment in the benefits of the nutritional profile. Based upon the daily intake of the calorific values needed; this source of the diet may form the support of healthy consumption as it is a boost for the moisture and the fibre content.

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