STUDIES ON NUTRITIVE CONTENT IN DISEASED VEGETABLES

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ABSTRACT

Plants are nature gift as it provides food and nutrients to all living beings. Vegetables are essential for everyone as it contains nutrients like proteins, carbohydrates, fats and minerals, water which protect us from several diseases and gives energy. The nutritional content for three vegetables taken from the solanaceous family i.e. Tomato, Brinjal and Chilli were taken. The diseased vegetables shows shorter shelf life than healthy vegetables. The studied parameters show a less value in all the diseased vegetables like protein, carbohydrate, minerals, vitamins and fats.

KEYWORDS: Nutrients, edible vegetables, shelf life, plant diseases, vitamins, minerals, fats and proteins

INTRODUCTION

Vegetables and fruits are highly value in the diet of human mainly for minerals and vitamins. The role of fruits and vegetables is well established and protect against diseases like heart, digestive and endocrine system. (Hayes, D.P. 2005). Nowadays chemicals are sprayed over the vegetables and fruits for ripening and processing areas. These chemicals change the nutritional properties of vegetables and lead serious health problems to human beings like Skin irritation, cancer, Kidney, Liver disease, diarrhea, vomiting, central nerve problem, heart and gastrointestinal irritation (Hassan, M.K et al., 2010). Lower nutritional quality of chemical treated vegetables cause hazardous effects which increase become popular because the health burden in the society.

Tomato (Lycopersicon esculentum, Mill) is grown for its edible fruits and can be consumed either fresh or processed, state and it is a good source of minerals and vitamins. Since nineteenth century tomato cultivation became popular because of its high nutritive value and climatic adaptability.

Brinjal (Solanum melongena L.) is also an important tropic and sub-tropic crop grown throughout India. It has many shapes and varieties and white resemble in shape to chicken eggs. Hence it is called chicken eggs. It also has rich source of vitamins and minerals.

Chilli (capsicum annuum L.) is also an important crop and world total production in green Chilli is 7-8 million tones. (Pruthi, 1993)

After harvest it has different storage conditions. If not proper storage various fungi causes rot and brings spoilage of nutritional value of Tomato, Brinjal and Chilli fruits. Considering this fact, present study has been carried out.
MATERIALS AND METHODS:

The diseased vegetable nutrient content were compared with the healthy vegetables and the data along with the photographs were tabulated. The nutritive content also analysed by five parameters like Fats, Protein, Vitamins, Carbohydrate and Minerals. Estimation of crude fat method followed by Aocc.(2000) Estimation of carbohydrate was determined by Anthrone method described by Hedge and Horfeilter, 1962). Estimation of Protein were analysed by Lowry et al, 1951.

VITAMIN ANALYSIS:

The vitamins in the healthy and diseased vegetables were determined by the official methods of the Association of official Analytical chemists (AOA C, 1990). In this vitamin (A), vitamin C (Ascorbic acid) and vitamin E (Tocopherol) were analysed.

MINERAL ANALYSIS:

The minerals in the healthy and infected vegetables were analysed from solution obtained when 5g of the samples were digested with 10mls of 5N concentrated hydrochloride. The mixtures were placed on a water bath and evaporated almost to dryness. The solution was cooled and filtered into 100ml standard flask and diluted to volume with distilled water. Atomic absorption spectrophotometer was used to analyze the minerals separately after acid digestion of the sample, as described in the official method of the Association of official Analytical chemists.

RESULTS AND DISCUSSION:

The results of the nutritive content of Tomato, Birinjal and Chilli are shown in tables.
Vegetables are important sources of many nutrients, which helps to protect the diseases in the human body. Currently, many of the vegetables are grown in pesticide residue. The nutritional properties of tomato were noticed with fungal infected and healthy tomato. The diseased tomato were observed the nutritional values of proteins (0.08%), mineral (0.13%), carbohydrates (2.20%), vitamins (12.3%) and fats (0.04%) as depicted in Table 3. Healthy tomato was seen in the quantities of proteins (1.8%), mineral (0.5%), carbohydrates (3.4%), vitamins (21.3%) and fats (0.5%). Finally, it was concluded vitamin content was highly present in healthy Tomato when correlate with the diseased Tomato.
The diseased tomato were observed the nutritional values of proteins (1.4%), mineral (0.5%), carbohydrates (1.46%), vitamins (67%) and fats (0.20%) as depicted in Table 4. Healthy tomato was seen in the quantities of proteins (2.8%), mineral (0.86%), carbohydrates (2.9%), vitamins (107%) and fats (0.7%). Finally, it was concluded vitamin content was highly present in healthy tomato when correlate with the diseased tomato.
The diseased tomato were observed the nutritional values of proteins (0.9%), mineral (0.02%), carbohydrates (2.46%), vitamins (4.33%) and fats (0.03%) as depicted in Table 5. Healthy tomato was seen in the quantities of proteins (1.30%), mineral (0.20%), carbohydrates (3.80%), vitamins (11%) and fats (0.18%). Finally, it was concluded vitamin content was highly present in healthy tomato when correlate with the diseased tomato. The great quantity of vitamins was presented in Chilli other than the Tomato and Brinjal.

These results were agreed well with the Admas (1991) who noted the quality and yield of Tomato are indirectly related.

CONCLUSIONS

Hence nutritional factors are considered critical for human health. Thus, vegetables and fruits act as health promoters. So, care must be taken to prevent the invasion of fungal pathogens during storage of fungal pathogens during storage. So, social awareness and Mass resistance are the most efficient deterrents to such diseased vegetables.
REFERENCES


