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Red Okra: A Protective Food

[*]Arshpreet Singh[1], Shempi[2], Harpreet Kaur[3] and Rajwant Kaur[4]
[*1,2,3,4]M.Sc. Agriculture (Horticulture- Vegetable Science) Mata Gujri College, Fatehgarh Sahib, Punjab- 140407, India

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Introduction

Red okra [*Abelmoschus esculentus* (L.) Moench] so called as 'Lady finger'. In various sites it is known by its unique name but in India it is commonly known as 'Lal Bhindi'. It belongs to family Malvaceae and having the highest chromosome number (2n=130) among the vegetable crops. Vegetables are the major source of vitamins, minerals and dietary fibres etc. Okra is a one of the popular vegetable crop ranks 1st in production by India throughout the world. It is well known that nowadays diseases spread all over on the globe due to malnutrition. There is a specific need to induce some additional health-conscious compounds that helps to enhance the good growth of living being and shows protective effect against illness. In addition, with operations of agriculture scientists and researchers they become successful in introducing a compound 'Anthocyanins'to green okra pods and changes the colour of pods to dark red.

Anthocyanins

Anthocyanins are the compounds which belongs to flavonoid group of phytochemicals. Additionally, these are water soluble colored pigments that relates with phenolics group. Usually responsible for colours such as red, blue and purple in most of the vegetables and fruits. Color of pigment totally dependent on factors i.e. pH, light, structure and temperature (Khoo *et al.* 2017).

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Protective effects of Red Okra

Okra serves as good nutritional vegetable food and it can be consumed as raw, cooked or boiled. Edible part of red okra is its dark red coloured pod. It consists of several minerals include potassium 303 mg, calcium 81 mg, phosphorus 63 mg, magnesium 57 mg, iron 0.8 mg present in per 100 g. Some of the major health benefits which described okra as a protective food source are-

- **Antidiabetic Properties:** According to World Health Organization around 422 million people suffers from diabetes in the world and it gradually increases every year. Okra seems to reduces the glucose level in the blood with its mucilage extract. This resulting in reduction in hyperglycaemic or also called as High Blood Sugar.
- **Antioxidant Activity:** Antioxidants are the molecules that fight with free living radicals present in human body that results in harmful effects if radicals increase from their optimum level. Immature pods are used in servings in diet these immature pods contain number of seeds which consists of polyphenol (29.5%) which acts as a antioxidant property.
- **Anticancerous Effects:** As per World Health Organization statistics, about 10 million people died in 2020 due to various type of cancer i.e. lungs cancer, breast cancer, colon & rectum cancer, stomach cancer and liver cancer. Flowers of okra contains several numbers of flavonoids and phenols that works against tumor growth and possess an anticancer property.
- **Anti-obesity:** According to World Health Organizations, more than 1 billion people suffers from obesity and it cause damage to severe organs such as heart, liver, kidneys, joints and reproductive parts. Okra compounds helps to reduce body fat and results in healthy weight gain instead of fatty weight gains.
- **Antimicrobial:** Red okra compounds possess antimicrobial activities especially against wide range of pathogens and microorganisms. Protect the cell wall, cell wall membrane and its intercellular functions from disruption by microorganisms.
- **Immunity Booster:** Immune system of living organisms has a unique role which acts as a protection cover to prevent the diseases. Phytochemicals that are present inside okra works to boost the immunity and make susceptible to fight against diseases.

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Phytochemicals are the compounds which are generally help to create resistance against fungi, bacteria and infections etc.

- **Food additives:** Various processed foods which are highly nutritious such as colored jams, confectionaries and beverages etc. are colored using extracted anthocyanins. Red okra is rich in anthocyanins compound which can be used to extract pigment and make nutrients rich processed food for living being.
- **Appetizer:** Red okra possesses pharmaceutical property which is highly useful for making appetite medicine. and helps to enhance the appetite. This can be used as a good appetizer.
- **Eye Functions:** Due to the presence of anthocyanins, red okra helps in improving the visual functioning of suffers from tension glaucoma. Additionally, it shows good impact on night vision.
- **Cardiovascular Functions:** The regular consumption of red okra helps to improve the platelets functioning as well as lipid profile in body which is due to presence of rich source of anthocyanins.
- **Anemia Recovery:** Red okra is found to be good diet source for people who suffers from lack of haemoglobin in body and meet the iron requirement in human body.
- **Healthy Pregnancy Period:** It is found to be beneficial for the good progress of fetus growing in the womb. Amount of folate present in red okra is acceptable for brain development of fetus.

Shelf Life of Red Okra

At room temperature red okra have shorter period of shelf life. Consume the red okra same day to avoid decay otherwise it needs to store at optimum storage conditions to maintains their nutritional content, texture and aroma. Generallly, it over matures within night and losses all its hardiness and colour. Storage of okra requires 12.5 ^{0}C temperature in ventilated packages to reduce spoilage, weight loss and provides longer shelf life (Veazie and Collins, 1992).

Conclusion

In conclusion, red okra is good source of enormous of nutrients and possess rich amount of health benefits. In comparison to green okra, red okra having an extra compound which is beneficial to prevent number of health diseases. Moreover, red okra is better in taste and flavor after cooked. In adding more, it proves to be highly beneficial for growers due to the price of red okra that is almost doubled than green okra in market.

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