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ANTIOXIDANT PROPERTIES OF CURRY LEAVES (*MURRAYA KOENIGII* L),
GILOY (*TINOSPORA CORDIFOLIA*), GUAVA LEAVES (*PSIDIUM GUAJAVA*)
AND PATCHOI LEAVES (*BRASSICA RAPA*)Paul Virginia¹, Singh Anamika^{2*} and Singh Neelam²

*Corresponding Author: Singh Anamika, ✉ anamika.singh161989@gmail.com

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In food science, antioxidants have a broader scope, in that they include components that prevent fats in food from becoming rancid as well as dietary antioxidants. Curry leaves (*murraya koenigii* l) belong to family Rutaceae, a perennial shrub or small tree commonly cultivated in India, Srilanka and other Asian countries. *Tinospora cordifolia* Miers. is a widely used shrub in folk and Ayurvedic systems of medicine. It is a large, glabrous, deciduous climbing shrub belonging to the family menispermaceae. It is distributed throughout tropical Indian subcontinent and China. Objectives: To find out the antioxidant properties of Curry leaves (*Murraya koenigii* L), Giloy (*Tinospora cordifolia*), Guava leaves (*psidium guajava*) and Patchoi leaves (*Brassica rapa*). Research Design: In this study the selected leaves (curry leaves, giloy, guava and patchoi) are taken from the campus of SHAITs, Allahabad. Leaves were dried by hot air oven drying method. Leaves were kept in an oven for drying at 60 °C for 5 hrs and powder were made from dried leaves. Estimation of Photochemical/Antioxidant activity were done by the Total Phenol Content (TPC), determination of Radical Scavenging Activity, Ascorbic Acid Content (AAC). Results: Study showed that the powder obtained from selected leaves (curry, giloy, guava and patchoi) possesses considerable amounts of phenolic compounds and a significant radical scavenging activity towards stable DPPH, antioxidant activity was observed in selected leaves.

Keywords: DPPH, Total Phenolic Content (TPC), Ascorbic Acid Content (AAC)

INTRODUCTION

Generally, anti-oxidants have been identified as major health beneficial compounds reported from varieties of medicinal plants and are sources for alternative medicines (Daniel, 2005). Guduchi is widely used in veterinary folk medicine/ ayurvedic system of medicine for its general tonic, anti-periodic, anti-spasmodic, anti-inflammatory, anti-arthritis, anti-allergic and anti-diabetic properties (Nadkarni and Nadkarni, 1976; Chopra *et al.*, 1982; and Zhao *et al.*, 1991) Curry leaves (*Murraya koenigii*) is a tropical to sub-tropical tree in the family Rutaceae, which is native to India. They contain the antioxidants tocopherol, β -carotene and lutein

(Palaniswamy, 2001). Guava (*psidium Gujava*) is rich source of ascorbic acid, carotenoides and polyphenol. Fresh patchoi leaves are excellent source of vitamin c and ,vitamin A, vitamin K, carotenes and other other flavonoid polyphenolic anti-oxidant.

Justification

These leaves are easily available in local surrounding. These leaves having higher amount of antioxidant. Thus we selected these leave to assess the anti oxidant activity.

Objective

To find out the antioxidant properties of Curry leaves

¹ Associate Professor, Sam Higginbn, Bottom Institute of Agriculture, Technology & Sciences, Allahabad, India.

² Research Scholar, Sam Higginbn, Bottom Institute of Agriculture, Technology & Sciences, Allahabad, India.

(*Murraya koenigii L*), Giloy (*Tinospora cordifolia*), Guava leaves (*psidium guajava*) and Patchoi leaves (*Brassica rapa*).

MATERIALS AND METHODS

The selected leaves (curry, giloy, guava and patchoi leaves) are taken from the local surrounding.

Estimation of Photochemical/ Antioxidant Activity

Total Phenol Content (TPC): TPC was determined using the Folin-Ciocalteu's reagent (Singleton and Rossi, 1965).

Determination of Radical Scavenging Activity: DPPH method

Ascorbic Acid Content (AAC): The AAC was determined by the iodine titration method (Ranganna, 1986) or the RP-HPLC method.

RESULTS AND DISCUSSION

DPPH radical scavenging ability higher than that of a reference compound ascorbic acid (vitamin C). DPPH radical scavenging activity in curry leaves (94.82) was highest. Highest scavenging activity was shown by metholic extract of curry leaves (95.1) (Sinha *et al.*, 2015). Total phenolic content of curry leaves was 24.7. Initially the total phenolic content of murraya keonigii leaves powder extract was (22.6) (kumutharanjan *et al.*, 2015).

| Sample | Curry Leaves (<i>Murraya koenigii L</i>) | Giloy (<i>Tinospora cordifolia</i>) | Guava (<i>psidium Gujava</i>) | Patchoi Leaves (<i>Brassica rapa</i>) |
|---------------|---|--|------------------------------------|--|
| DPPH | 94.82 | 59.17 | 85.75 | 60.17 |
| Ascorbic acid | 44.63 | 2.2 | 45.86 | 1.145 |
| TPC | 24.7 | 43.22 | 22.684 | 38.75 |

The positive correlation between polyphenolic content of the extracts and its antioxidant activity is well documented (Huang and Mau, 2006). A significant relationship between antioxidant potential and total phenolic content was found, indicating that phenolic compounds might be the major contributors to the antioxidant potential (Arvinder *et al.*, 2015).

CONCLUSION

In above study it is shown that the antioxidant activities of selected leaves (curry patchoi, guava, and giloy leaves) are

very high. These leaves are useful for us in medicinal point of view. The DPPH value of curry leaves is higher (94.82) then other selected leaves and AAC is higher in guava leaves (45.86) to comparatively other leaves. TPC value is high in giloy (43.22).

Conflict of Interest: Nil

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