IJABR

International Journal of Advanced Biotechnology and Research (IJBR)
ISSN 0976-2612, Online ISSN 2278–599X,
Vol-12, Issue-3, 2021, pp19-21
http://www.bipublication.com

Research Article

Determination of Sodium Content from *MANGIFERA INDICA* Plant from Nanded City

Shoukath Unnisa Sabry and A. B. Bhosle

School of Earth Sciences,

SRTM University, Nanded, India

[Received 14 June-2021, Accepted 29 July-2021, Published 11 Aug-2021] DOI: 10.5281/zenodo.5635635

ABSTRACT

The plants of Nanded region of Maharashtra are potential source of nutritionally and phytochemically important compounds. The animals and human beings in this region are fully dependent on these plants for food, fodder, fibre and fuel. The plant species growing in this region besides their medicinal importance may contain sufficient amount of nutrients to be considered as livestock feed. The present investigation deals with evaluation of Sodium contents of Leaves of Mango (*Mangifera indica*) plant. The Leaves of the selected plant species taken for present investigation were collected from six region of Nanded City. The samples were dried powdered and then used for estimation of mineral i.e. Sodium. The Average Sodium content in Mango Plant Leaves is ranges from 185.98 to 251.9 ppm during the study period.

Keywords: Sodium, plant, leaves, nutrient, Nanded, etc.

1. INTRODUCTION

The remarkable progress that has been made in the science of Medical Elementology during the past few decades has not only opened avenues for research on human health related aspects but also aroused the interest of the pharmaceutical industries containing elements reported to be essential for human health. The varieties of formulations are available and used worldwide [1]. It has been reported that out of 110 known elements, 81 elements present in living organism, which were then biologically classified [2,3].

Plant body is composed primarily of carbohydrate proteins, amino acids, nucleotides, lipids and porphyrins. The plant parts used by desert dwellers have not been analyzed fully from nutritive value point of view. Life cannot be sustained without adequate nourishment. Man needs adequate food for growth, development and to lead an active and healthy life. Minerals are also a type of nutritive contents. Macronutrients are required in large quantities (more than 100 mg/ltr of water) to the plant and usually participate in body construction (C, H, O, N, S, P, K, Mg, Ca, Fe, Na). Micronutrients are required in smaller quantities (100 mg/ltr of water) and usually participate in various metabolic activities. These mineral constitute major part of the animal diet. Some of these

are important in various metabolic activities also. These nutritive contents are found in all green plants. The primary productivity of the green autotrophic plants is the main base for the present existence of entire biosphere [4,5]. It determines the carring capacity of earth for human beings. Great importance is being laid on the rate of energy storage in diverse ecosystem by green plants. Primary productivity is the gain in the weight of organic matter generated by photosynthesis in a given period of time. Net production is that part of gross photosynthetic production, which is accumulated in plant after metabolic activities and hence becomes available for utilization as food [6,7].

2. Study Area

The district Nanded is located on Deccan plateau region of southern India. The main trend of the hills is from NW to SE in parallel ranges with offshoots generally running in perpendicular direction. The Satamala ranges enter the districts after the Penganga valley just west of Mahur. To the south of the Satamala ranges, the Nirmala hill ranges run parallel to them and to the east of the Peneganga they are linked to the former by off shoot hill which are aligned more or less to the course of the river which in turns forms the district boundary. The study area is situated within Godavari valley region. The landform is developed by moderately dissected plateau deposition of soil on the flood plains of the Godavari River. The sampling locations are near the Godavari River in Nanded City.

3. Material and Methods

The present investigation deals with evaluation of Sodium contents of Leaves of Mango (*Mangifera indica*) plant. The Leaves of the selected plant species taken for present investigation were collected from Chaitanya Nagar, Taroda Naka, Sneh Nagar, Hingoli Naka, Pawadewadi Naka and Baba Nagar region of Nanded City of Nanded district. All Plant leaves were collected in polythene bags. The samples were dried powdered and then used for estimation of mineral i.e. Sodium.

4. RESULTS AND DISCUSSION

The present work was therefore an attempt to evaluate the Sodium (Na) content of selected Mango (*Mangifera indica*) plant in six location of Nanded City i. e. Chaitanya Nagar, Taroda Naka, Sneh Nagar, Hingoli Naka, Pawadewadi Naka and Baba Nagar during April, 2014 to March, 2015 has been determined.

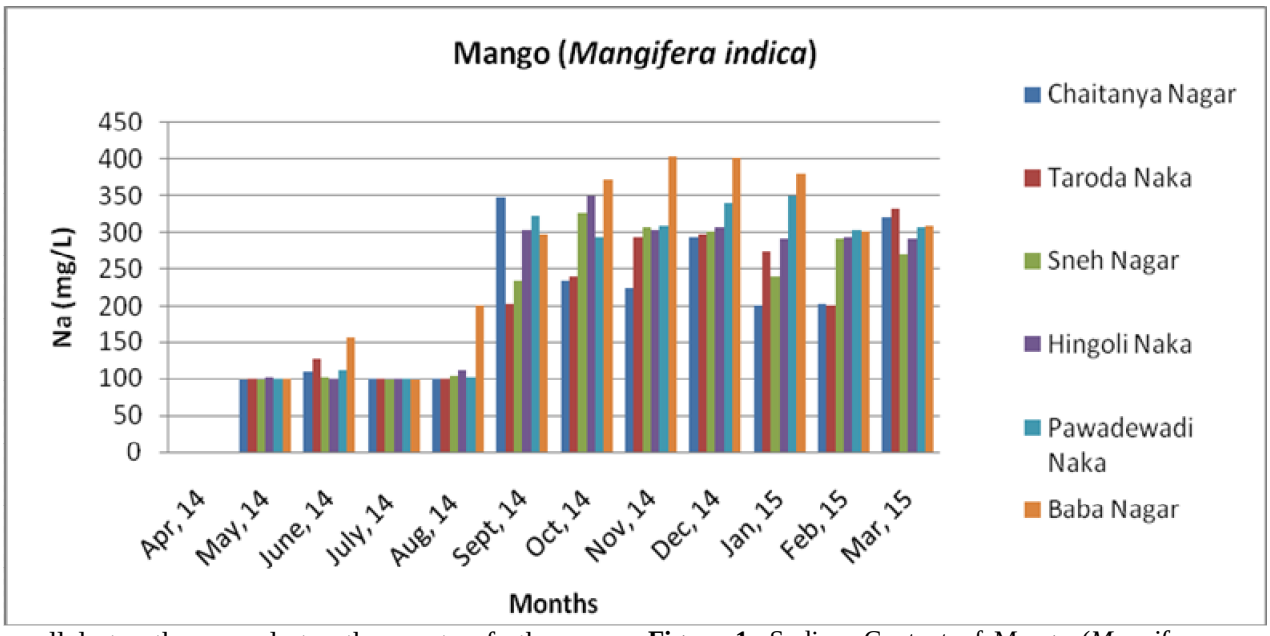

Figure 1: Sodium Content of Mango (*Mangifera indica*) Plant Sample of All Location from Nanded City during April, 14 - March, 15.

From the figure 1, the Average Sodium content in April, 2014 to March, 2015 of

Chaitanya Nagar (185.98 ppm) location is less and Baba Nagar is higher (251.9 ppm) as compare to the other locations from Nanded City. In April, 2014 the Sodium content is zero, while in May, June and July 2014 is slightly less as compare to the other month's sodium content. In the months of May 2014, June 2014, July 2014 and August, 2014 the sodium content is lesser as compare to other months sodium content in all months in all locations.

4.1. DISCUSSION

The average Sodium and Potassium content of Mango plants and six sampling location in the month of April, 2014 to March, 2015 are shown in the Table 1.

Table 1: Average Sodium (Na) Content from Selected Plant Materials of Nanded City

Location	Mango
Chaitanya Nagar	185.98
Taroda Naka	188.98
Sneh Nagar	197.87
Hingoli Naka	213
Pawadewadi Naka	220.03
Baba Nagar	251.9
Minimum	**185.98**
Maximum	**251.9**
Average	**209.63**

In the Mango Plant Leaves the Average Sodium content in April, 2014 to March, 2015 of ranges from 185.98 to 251.9 ppm (Table 1). The Average Sodium content in April, 2014 to March, 2015 of Chaitanya Nagar Location is less and Baba Nagar is higher as compare to the other locations from Nanded City. The average Sodium content value of the plant is 209.63 ppm.

CONCLUSION

In the Mango Plant Leaves the Average Sodium content in April, 2014 to March, 2015 of ranges from 185.98 to 251.9 ppm. The Average Sodium content in April, 2014 to March, 2015 of Chaitanya Nagar Location is less and Baba Nagar is higher as compare to the other locations from Nanded City.

REFERENCES

1. Iqbal Hussain, Farhat Ali Khan and Muneeb Ur Rehman Khattak (2011). Evaluation of Inorganic Profile of Selected Medicinal Plants of Khyber Pakhtunkhwa Pakistan. World Applies Sciences Journal, 12(9), 1464-1468.
2. Kapoor B B.B.S. and Versha Arora (2014) Evaluation of Mineral Contents from Some Medicinal Plant Species of Jaisalmer District of Rajasthan. BioMed Research Phytomedicine, 1(1), 1-3.
3. Qureshi A.H., 1991. Quick Index of Medical Preparations (QIMP). Karachi, Pakistan.
4. Qureshi, A.H., 1992. Quick Index of Medical Preparations (QIMP). Karachi, Pakistan.
5. Vats Arun and Komal Lata Nagpal (2013). Evaluation of Mineral contents. International Journal of Research in Engineering and Applied Sciences, Vol. 3 (2), 63-72.
6. Vohora, S.B., 1981. Is human body a microcosm._A Critical Study. Studies Hist. Med., 5(1): 61.
7. Vohora, S.B., 1982. Elements in human health and disease. Earth, Elements and Man, Supplement No. 1, Institute of History of Medicine and Medical Research, New Delhi.