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Comparative study of moisture content of some ethnobotanical plants used in the rituals of Munda tribe of Khunti district, Jharkhand

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Abstract- Khunti is the 23rd district of Jharkhand state and it is Munda dominated district. Munda tribals are closely associated with the nature. They believe that Almighty God and Deities reside in some sacred plants. They dependent on agriculture and forestry for their livelihood. So, their all rituals and festivals are related with the plants. They celebrate many rituals like naming ceremony of a child, marriage, death rituals and festivals like Mage, Phagu, Baa parab, Batauli, Her Puna, Karam, Sohrai and Kodeleta etc. Some common plants like *Shorea robusta* Gaert., *Semecarpus anacardium* L., *Haldina cordifolia* (Roxb.), *Cynodon dactylon* L., *Eleusine coracana* L. and *Plumeria acutifolia* Poir etc. are used in the rituals of Munda tribe. Present study deals with the comparison of moisture content of two plants.

Key words: Rituals, Festivals, Munda, Moisture content and Khunti.

INTRODUCTION

Jharkhand is the land of forest where various ethnic groups like Santhal, Oraon, Munda, Ho, Kharia, Bhumij, Paharia, Gond, Kol and Saver etc. are residing. All tribals are closely related with the nature but their knowledge about different plants and their uses are different.¹ A study reveals that almost all the festivals are related to a plant or a crop and all these plants have nutritional and medicinal values.² It is also found that several plants have similar ethnomedicinal uses with valid scientific name.² Some studies have been done on traditional knowledge of tribals of Khunti district. Studies on underutilized weeds of family Amaranthaceae used as edibles by the Munda tribe of Jharkhand, India.³ Diversity and traditional knowledge on some less known edible wild herbaceous plant resource from district Khunti, Jharkhand, India.⁴ Studies on

indigenous traditional knowledge of some aquatic and marshy wild edible plants used by the Mundas tribe of district Khunti, Jharkhand, India.⁵

In this study the comparative study of moisture content of two ethnobotanical plants are observed which are used in the rituals of Munda tribe of Khunti district, Jharkhand. These plants are *Semecarpus anacardium* L., and *Eleusine coracana* L.

MATERIALS & METHODS

Frequent field trip were conducted to the area of Khunti district during year 2020-2021 and plant species were collected with the help of Religious priests (pahan) and local knowledgeable people. The plants were identified with the help of Botany of Bihar and Orissa part I - VI. The fresh leaves of plants are used to determining moisture content. The moisture content is determined by heating the green leaves of plants at 90°C in a hot air oven. The

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moisture content is the difference between initial weight of the green leaves and final weight of leaves after drying.
$$\% \text{ of moisture content} = \frac{\text{initial weight of the green leaves} - \text{final weight of leaves after drying}}{\text{initial weight of the green leaves}} \times 100$$

Table 1- Moisture content of *Semecarpus anacardium* L.

Material	Number of observation	Weight of fresh leaves	Weight of dried leaves	Difference	% of moisture content
Fresh leaves of <i>Semecarpus anacardium</i> L.	1	10gms	3.011	6.989	69.89
	2	10gms	2.975	7.025	70.25
	3	10gms	2.965	7.035	70.35
	4	10gms	3.018	6.982	69.82
	5	10gms	3.055	6.945	69.45
	6	10gms	2.992	7.008	70.08
	7	10gms	2.987	7.013	70.13
	8	10gms	2.970	7.030	70.30
	9	10gms	2.990	7.010	70.10
	10	10gms	3.013	6.987	69.87
Total					700.24%

Average moisture content = 70.02%

Mean = 70.02, S.D. = 0.25, S.E. = 0.08

Parameter	Moisture Content (Mean %W/W ±S.E.)
Total Moisture Content of <i>Semecarpus anacardium</i> L. (leaves)	70.02 ± 0.08

Table 2- Moisture content of *Eleusine coracana* L.

Material	Number of observation	Weight of fresh leaves	Weight of dried leaves	Difference	% of moisture content
Fresh leaves of <i>Eleusine coracana</i> L.	1	10gms	3.354	6.646	66.46
	2	10gms	3.300	6.700	67.00
	3	10gms	3.306	6.694	66.94
	4	10gms	3.326	6.674	66.74
	5	10gms	3.339	6.661	66.61
	6	10gms	3.344	6.656	66.56
	7	10gms	3.340	6.660	66.60
	8	10gms	3.325	6.675	66.75
	9	10gms	3.330	6.670	66.70
	10	10gms	3.346	6.654	66.54
Total					666.9%

Average moisture content = 66.69%

Mean = 66.69, S.D. = 0.16, S.E. = 0.05

Parameter	Moisture Content (Mean %W/W ±S.E.)
Total Moisture content of <i>Eleusine coracana</i> L (leaves)	66.69 ± 0.05

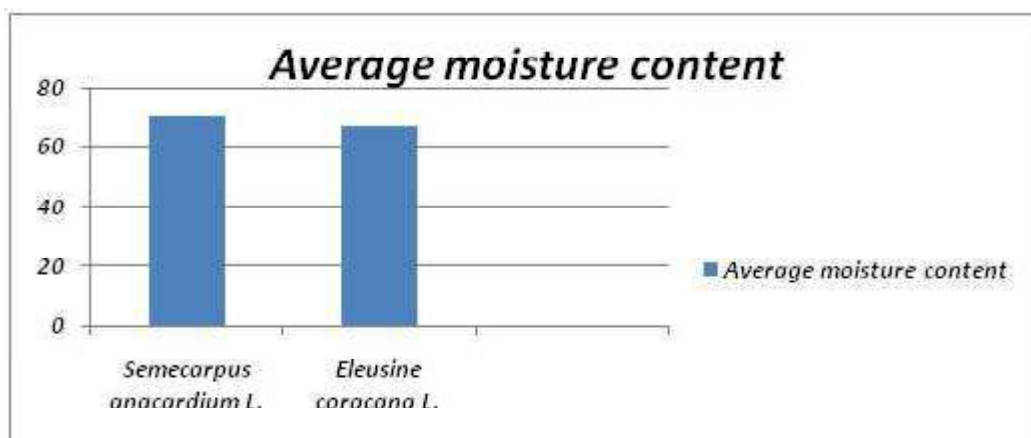


Fig. 1- Comparison between moisture content of *Semecarpus anacardium* L. and *Eleusine coracana* L.

RESULT & DISCUSSION

The comparative study of moisture content of two plants are done in the present study. The moisture content of *Semecarpus anacardium* L. is high (70.02 ± 0.08) and moisture content of *Eleusine coracana* L. is low (66.69 ± 0.05). These plants are well known among Munda tribals for ethnobotanical uses, like branch of *Semecarpus anacardium* L. is planted in paddy field in Soso Karam festival and seedlings of *Eleusine coracana* L. are used in Kodeleta festival to make khichdi. Traditional healers and physicians use these plants in their clinical practices. A study shows *Semecarpus anacardium* L. has various medicinal properties.⁷

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