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Determination of moisture content of some ethno medicinal plants used as anti-ageing source Ranchi district of Jharkhand

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Abstract

In the present scenario as our life become so hard and fast. For every health and personality associated problem we depend on medicine. These medicine has not only capacity to cure but also has so many side effects. This is why people need change and started to use herbal treatment. Keeping this in mind the present study was planned to evaluate the moisture content of some ethno medicinal plants like *Calotropis procera* (Asclepiadaceae), *Cacciatora* (Caesalpinicaceae), *Clitorea ternatea* (Fabaceae) *Mimosa pudica* (Mimosaceae), *Hibiscus rosa-sinensis* (Malvaceae), These plants are used as anti-ageing source in Ranchi district of Jharkhand. An Ethnobotanical inventory was made by conducting interviews with tribal people, formal surveys in the field, collection and identification of plant specimen. The moisture content of five plants were studied in which *Hiriscus rosa-sinensis* was found most suitable source.

Keywords: Anti-ageing, Ethnobotanical, moisture content etc.

Introduction

Anti-ageing relating to any product or procedure claiming to reverse or slow down the effect of ageing. It is the most sought after beauty query. Medicinal plant and anti-ageing are closely related. The moisture contents found in medicinal plant has great potential to fulfill our desire 1, 2. According to the report of WHO now a day the world's population started to depend on traditional system of medicine. Jharkhand considered as one of the richest state in India gifted with vast natural resources. The valleys and mountains covered with thick, dense forest and plants which are full of ethno medicinal values. The local people use them for different health and beauty related issues, a survey was conducted to explore the importance of some medicinal plants which are helpful to control the ageing process. Moisturizing is the primary and basic need in relation to skin ageing. Various external and internal factors are responsible for dryness of the skin. Various herbs possessing moisturizing components help to retain skin moisture. The present study deals with determination of moisture content of five ethnomedicinal plants used as anti-ageing source in Ranchi district of Jharkhand.

Materials and Methods

For the study of moisture content, the plants materials were collected from local garden and local areas. The plants were correctly identified with the help of Flora Botany of Bihar and Orissa Vol 1, Vol 2, Vol 33, 4, 5.

The moisture content was determined by heating the green leaves of plants at 90°C in a hot air oven. The difference between initial weight of the green leaves and final weight after drying is the moisture content. The percentage of chemical constituents in crude drug is mentioned on air dried basis.

$$\text{Moisture Content \%} = \frac{\text{Initial Wt.} - \text{Final Wt.}}{\text{Initial wt.}} \times 100$$

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Table 1: Moisture content of *Lawsonia Inermis* Linn.

Material	No. of Observation	Wt. of Fresh Leaves	Wt. of dry Leaves	Difference	Moisture content (in %)
Fresh Leaves of <i>Lawsonia Inermis</i> L.	1	10 gm	3.566	6.434	64.34%
	2	10 gm	3.562	6.438	64.38%
	3	10 gm	3.562	6.438	64.38%
	4	10 gm	3.577	6.423	64.23%
	5	10 gm	3.563	6.437	64.37%
	6	10 gm	3.564	6.436	64.36%
	7	10 gm	3.565	6.435	64.35%
	8	10 gm	3.561	6.439	64.39%
	9	10 gm	3.568	6.432	64.32%
	10	10 gm	3.569	6.431	64.31%
Total					643.38

Average moisture content = 64.33%

$$\text{Moisture content \%} = \frac{\text{Initial Wt.} - \text{Final Wt.}}{\text{Initial Wt.}} * 100$$

Table 2: Moisture content of *Clitoria ternatea* Linn

Material	No. of Observation	Wt. of Fresh Leaves	Wt. of dry Leaves	Difference	Moisture content (in %)
Fresh Leaves of <i>Clitoria ternatea</i> L.	1	10 gm	4.459	5.541	55.41%
	2	10 gm	4.454	5.546	55.46%
	3	10 gm	4.490	5.510	55.10%
	4	10 gm	4.449	5.551	55.51%
	5	10 gm	4.453	5.547	55.47%
	6	10 gm	4.460	5.540	55.40%
	7	10 gm	4.462	5.538	55.38%
	8	10 gm	4.441	5.559	55.59%
	9	10 gm	4.443	5.557	55.57%
	10	10 gm	4.444	5.556	55.56%
Total					554.44

Average Moisture Content = 55.44%

Table 3: Moisture content of *Azadirachta Indica* A.Juss.

Material	No. of Observation	Wt. of Fresh Leaves	Wt. of dry Leaves	Difference	Moisture content (in %)
Fresh Leaves of <i>Azadirachta Indica</i> A.Juss.	1	10 gm	3.335	6.665	66.65%
	2	10 gm	3.386	6.614	66.14%
	3	10 gm	3.386	6.614	66.14%
	4	10 gm	3.385	6.615	66.15%
	5	10 gm	3.384	6.616	66.16%
	6	10 gm	3.334	6.666	66.66%
	7	10 gm	3.336	6.664	66.64%
	8	10 gm	3.380	6.620	66.20%
	9	10 gm	3.381	6.619	66.19%
	10	10 gm	3.387	6.613	66.13%
Total					663.06

Average Moisture Content = 66.306%

Table 4: Moisture content of *Hibiscus rosa-sinensis* Linn

Material	No. of Observation	Wt. of Fresh Leaves	Wt. of dry Leaves	Difference	Moisture content (in %)
Fresh Leaves of <i>Hibiscus rosa-sinensis</i> L.	1	10 gm	2.099	7.901	79.01%
	2	10 gm	2.892	7.108	71.08%
	3	10 gm	2.043	7.957	79.57%
	4	10 gm	2.053	7.947	79.47%
	5	10 gm	2.251	7.749	77.49%
	6	10 gm	2.255	7.745	77.45%
	7	10 gm	2.256	7.744	77.44%
	8	10 gm	2.891	7.109	71.09%
	9	10 gm	2.062	7.938	79.38%
	10	10 gm	2.066	7.934	79.34%
Total					771.32

Average Moisture Content = 77.13%

Table 5: Moisture content of Cassia tora Linn.

Material	No. of Observation	Wt. of Fresh Leaves	Wt. of dry Leaves	Difference	Moisture content (in %)
Fresh Leaves of Cassia tora L.	1	10 gm	2.872	7.128	71.28%
	2	10 gm	2.847	7.153	71.53%
	3	10 gm	2.931	7.069	70.69%
	4	10 gm	2.947	7.053	70.53%
	5	10 gm	2.811	7.189	71.89%
	6	10 gm	2.871	7.129	71.29%
	7	10 gm	2.870	7.130	71.30%
	8	10 gm	2.941	7.059	70.59%
	9	10 gm	2.946	7.054	70.54%
	10	10 gm	2.812	7.188	71.88%
Total					711.52

Average Moisture Content = 71.15%

Result & Discussion

Different plants species would obviously have different in their properties. The moisture content of five plants were studied in which *Hibiscus rosa-sinensis* had highest moisture content. With the help of this study which is primarily useful for the determination of adulterated drugs⁵. This parameters can serve as a valuable source of information in future study.

Conclusion

The moisture content of five plants *L.innerrmis*, *Clitorea ternatea*, *A.indica*, *Hibiscus rosa-sinensis* and cassia tora shows difference 6, 7 (Refer table). In which *Hibiscus rosa-sinensis* has highest moisture content. Authors opinion that this value may be helpful in this value may be helpful in this formulation of drugs in future which will be helpfull in Anti-ageing purpose.

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References

1. Mukherjee PK, Maity N, Nema NK, Sarkar BK. Bioactive compounds from natural resources against skin aging. *Phytomedicine*. 2011; 19:64-73.
2. Zouboulis CC, Boschnakow A. Chronological ageing and photoageing of human sebaceous gland. *Clin. Exp. Dermatol*, 2001.
3. Haines HH. The Botany of Bihar and Orissa, B.S.I Calcutta, 1921-25, 1-III.
4. Ghosh TK. Studies of Flora of Ranchi District. Ph.D Thesis, Ranchi University Ranchi, 1971, 4.
5. Hembrom PP, Adivasi Ausadh. (Horopathy), Paharia Seva Samiti, Pakur, Jharkhand, 1995, I-VII.
6. Jha RK. Ethnobotanical Values of some common home remedies herbal plants for Human welfare in Chota Nagpur Bihar India *Int. J Mende*. 1999; 16(3-4):113-114.
7. Batch Phyllis, Balch James. Prescription for Nutritional Healing 3rd ed., Avery Publishing, 2000.