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## Determination of extractive value of some ethnomedicinal plants used as anti-ageing source in Ranchi district of Jharkhand.

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**Abstract :** Anti-ageing means substances that are intended to prevent or limit the process of becoming old. Anti-ageing is perhaps the most sought after beauty query since time immortal. The extractive value have been studied in leaves, fruits and flowers of *Calotropis procera* (Asclepiadaceae), *Cassia tora* (Caesalpiniaceae), *Clitorea ternatea* (Fabaceae), *Mimosa pudica* (Mimosaceae), *Hibiscus rosa-sinensis* (Malvaceae), *Azadirachta indica* (Meliaceae), *Centella asiatica* (Apiaceae). Which is used as Anti-ageing source in Ranchi district of Jharkhand. Ethnobotanical inventories were made by conducting interviews with tribal people, formal surveys in the field, collection and identification of plant specimen. The extractive value of seven plants were studied in which ethanol was found suitable for these plants.

**Keywords :** Anti-ageing, Methanol, Ethanol, Ethno medicinal, Extractive value etc.

### INTRODUCTION

Medicinal plants have been used as traditional treatment for numerous human diseases since thousands of years. Medicinal properties of plants are due to the active chemical constituents present in different parts of plants<sup>1</sup>.

In the medical and more reputable business community anti-ageing medicine means easily detection, prevention and age related diseases. This is quite different from the tackling the ageing process itself and a wide accuracy of strategies and therapies are currently calories restriction is a demonstrated way to lower risk for a wide range of age related degenerative conditions<sup>2</sup>. Anti ageing means look and feel younger in some way which has bearing on how longer you live or how healthy you are. Anti ageing can be obtained by nutrition and cosmetics<sup>3</sup>. Natural herbs and herbal anti-ageing products maintain our body from harmful effect of environment. It can also balance the hormones of the body for long- period.

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According to the report of W.H.O over 80% of the world's population depends on traditional system of medicine, largely plant based to meet primary health care need. Tribal's of Jharkhand and also utilize a large no. of plant species as herbal remedies in various disease and ailments including hair fall, whitening of hair, black and white patches, wrinkles, looseness of skin, short of memory etc. The present study has brought light on some interesting plants having the potential of ability to control ailments.

### MATERIALS & METHODS

For the study of extractive value, the plant 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 3<sup>4</sup>.

For the determination of extractive value the powdered plants parts were soaked in different solvent. 5gms of powdered material was taken in four different beakers. The beakers were partly filled with four different solvents i.e. ethanol, methanol, benzene and acetone. Each one is left for nearly 24 to 96 hours<sup>5</sup>. Then those extracts

were filtered in four different weight beakers. The liquid final weight of the beakers were taken. The difference in extracts were then left to evaporate. After evaporation the weight was calculated to determine the respective value.

$$\text{Extractive value \%} = \frac{\text{Extractive weight in solvent} \times 100}{\text{Weight of drug material}}$$



**Fig. 1: Plant with solvent**



**Fig. 2: Evaporation**

Extractive value of selected medicinal plants :-

**Table-1. Extractive value of *Lawsonia inermis* Linn.**

Solvent	wt. of powdered materials.	wt. of empty beaker	wt. of beaker + extract.	Difference	Extractive value in %
Methanol	5 gm.	55.09	55.79	0.70	14.0
Ethanol	5 gm.	52.47	53.25	0.78	15.6
Acetone	5 gm.	52.52	52.98	0.46	9.2
Benzene	5 gm.	50.62	51.47	0.85	17

**Table- 2. Extractive value of *Clitoria ternatea* Linn.**

Solvent	wt. of powdered materials.	wt. of empty beaker	wt. of beaker + extract.	Difference	Extractive value in %
Methanol	5 gm.	50.64	51.42	0.78	15.6
Ethanol	5 gm.	54.48	54.91	0.43	8.6
Acetone	5 gm.	52.83	52.98	0.49	9.8
Benzene	5 gm.	54.60	55.01	0.41	8.2

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**Table - 3. Extractive value of *Azadiracta indica* Linn.**

Solvent	wt. of powdered materials.	wt. of empty beaker	wt. of beaker + extract.	Difference	Extractive value in %
Methanol	5 gm.	54.84	54.99	0.15	3
Ethanol	5 gm.	54.55	54.94	0.39	7.8
Acetone	5 gm.	53.93	54.01	0.08	1.6
Benzene	5 gm.	55.34	55.89	0.55	11

**Table - 4. Extractive value of *Hibiscus rosa-senensis* Linn.**

Solvent	wt. of powdered materials.	wt. of empty beaker	wt. of beaker + extract.	Difference	Extractive value in %
Methanol	5 gm.	53.39	53.79	0.45	9
Ethanol	5 gm.	54.81	54.99	0.18	3.6
Acetone	5 gm.	55.12	55.87	0.75	15
Benzene	5 gm.	54.79	55.00	0.21	4.2

**Table- 5. Extractive value of *Cassia tora* Linn.**

Solvent	wt. of powdered materials.	wt. of empty beaker	wt. of beaker + extract.	Difference	Extractive value in %
Methanol	5 gm.	54.52	54.89	0.37	7.4
Ethanol	5 gm.	53.23	53.91	0.68	13.6
Acetone	5 gm.	54.70	54.95	0.25	5
Benzene	5 gm.	53.27	53.90	0.63	12.5

**Table- 6. Extractive value of *Mimosa pudica* Linn.**

Solvent	wt. of powdered materials.	wt. of empty beaker	wt. of beaker + extract.	Difference	Extractive value in %
Methanol	5 gm.	54.87	55.09	0.22	4.4
Ethanol	5 gm.	53.02	53.78	0.76	15.2
Acetone	5 gm.	54.98	55.17	0.19	3.8
Benzene	5 gm.	53.84	54.00	0.16	3.2

**Table- 7. Extractive value of *Centella asiatica* Linn.**

Solvent	wt. of powdered materials.	wt. of empty beaker	wt. of beaker + extract.	Difference	Extractive value in %
Methanol	5 gm.	55.20	55.93	0.73	14.6
Ethanol	5 gm.	50.70	51.01	0.31	6.2
Acetone	5 gm.	54.23	54.84	0.61	12.2
Benzene	5 gm.	49.48	50.11	0.63	12.6

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### RESULTS & DISCUSSION

Different plants species would obviously have difference in chemical property. The extractive value of seven plants were studied in which ethanol was found suitable for these plants<sup>6,7,8</sup>. By studied extractive values determined which are primarily useful for the determination of exhausted or adulterated drugs. Physio-chemical parameters can serve as a valuable source of information and provide appropriate standards to establish the quality of these plant materials in future study or application.

### CONCLUSION

The extractive value of *L.inermis*, *Clitorea ternatea*, *A. indica*, *Hibiscus rosa-sinensis*, *Cassia tora*, *Mimosa pudica* and *Centella asiatica* shows difference (Refer table) & Authors opines that there values may be helpful in formulation of drugs in future provided one takes up the study of chemistry hidden vis a vis antiaging.

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