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Comparative moisture content of *Cuscuta reflexa* Roxb. grown on *Bougainvillae, Vitex negundo* & *Nerium olender* in Ranchi district.

Kavita Kumari* & Anil Kumar
University Department of Botany, Ranchi University, Ranchi, Jharkhand, India

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Abstract- Medicinal plant plays a crucial role for the advancement of new drug. Plant material remains a significant resource to combat severe disease in the world. The present study deal with the moisture content of *C. reflexa* grown on three different host. *Cuscuta reflexa* Roxb. belong to family Convolvulaceae. It is a parasitic plant commonly known as Amarbel, Amarlatta, etc. it is used as herbal medicine to cure number of disorders. Several studies have been confirmed that the plant possess potential anti-microbial, anti-oxidant, anti-inflammatory, anti-convulsant, anti-arthritics & hair growth promoting activities.

Key words: *Cuscuta reflexa* Roxb, Parasitic plant, Moisture content, Herbal medicine, Host plant.

INTRODUCTION

The nature's garden of medicine is being exposed since ancient civilization era. Still more than three fourth (3/4) of the world population depends on medicinal plants or their extracts for life sustaining process.[1] *Cuscuta reflexa* Roxb. is also known as "Akashvel" in traditional system of medicine. It is parasitic plant. The tendrils and seeds are used as various disorders.[2] *Cuscuta reflexa* is a leafless parasitic angiosperm belonging to the family Convolvulaceae and it is directly attaches to the host plants through the haustorium.[3] The parasitic plant *Cuscuta reflexa* Roxb is locally named as Amarlatta, Amarbell in hindi, Alagjaria in khartha and Bandh by santhali.[4] It has a only glabrous stem. It is used in various ethnopharma cological uses. The moisture content is the amount of moisture in the sample given as a percentage of the sample of an original weight. Dry content is the amount of solid which are left after drying given as a percentage of the original weight.

*Corresponding author :
Phone : 9304220394
E-mail : kumari.kavita552@gmail.com

MATERIAL & METHODS

In the study of moisture content, *Cuscuta reflexa* (Fig.1) stem collected from three host plant i.e., *Bougainville spectabilis*, *Nerium oleander* & *Vitex negundo* in the month of January from the different area of Ranchi District. Identification of plant was done by university prof. Dr. Kunul Kandir, head of university department of botany, Ranchi University, Ranchi & with the help of flora book "The Botany of Bihar & Orissa" Vol. I-IV.[5]

The stems were separated from collected plant & washed thrice in running tap water to remove all dirt, soil or any surface contaminants. After being washed all parts were kept in cool area for drying, before being initially weighted in weighing machine. Then taking initial weight, then kept in hot air oven at 55°C-60°C temperature till it dried properly. Then the dried stems of plant were again being weighted in weighing machine. The difference

between initial weight of fresh stem plant and final weight after drying was the moisture content.[6]

The percentage of moisture content were calculated with the given formula.[6]

$$\text{Moisture content} = \frac{\text{initial weight of fresh parts of plant} - \text{final weight of dried parts of plant}}{\text{initial weight of fresh parts of plant}} \; x\; 100$$

RESULT & DISCUSSION

The comparative study on moisture content of *Cuscuta reflexa* stem grown on 3 different hosts was done in the present study. It was observed that stem of *Cuscuta reflexa* collected from *Bougainville spectabilis* has higher moisture value i.e., 79.45% (Table 1). Respectively, *Vitex negundo* has 77.10% (Table 2) & *Nerium oleander* has lowest moisture content value i.e., 76.81% (Table 3).

The investigated plant was having highly medicinal properties. Traditionally the parasitic plant parts are used to cure a number of ailments. Whole plant is used to cure mental disorders conjunctivitis, respiratory disorder, piles, ulcer, stomach problem.[4,7] The whole plant infused with oil & used as massage oil for polio & arthritis.

Fig.1: Photograph of *Cuscuta reflexa* Roxb. on different host *Bougainville spectabilis, Nerium oleander, Vitex negundo*

Table 1- Moisture content of *Cuscuta reflexa* on host *Bougainville spectabilis*

Material	Number of observations	Weight of fresh stem (W1)	Weight of dried stem (W2)	Difference (W1-W2)	Moisture content %
Cuscuta reflexa Roxb on host *Bougainville spectabilis*	1	10 gm	1.813	8.187	81.87
	2	10 gm	2.510	7.490	74.90
	3	10 gm	1.912	8.088	80.88
	4	10 gm	2.075	7.925	79.25
	5	10 gm	1.805	8.195	81.95
	6	10 gm	2.033	7.967	79.67
	7	10 gm	2.431	7.569	75.69
	8	10 gm	1.926	8.074	80.74
	9	10 gm	2.130	7.870	78.40
	10	10 gm	1.908	8.091	80.91
Total					79.456%

Average moisture content = 79.456%

Table 2- Moisture content of *Cuscuta reflexa* on host *Vitex negundo*

Material	Number of observations	Weight of fresh stem (W1)	Weight of dried stem (W2)	Difference (W1-W2)	Moisture content %
Cuscuta reflexa Roxb on host *Vitex negundo*	1	10 gm	2.018	7.982	79.82
	2	10 gm	2.568	7.432	74.32
	3	10 gm	2.13	7.87	78.7
	4	10 gm	2.524	7.476	74.76
	5	10 gm	2.526	7.474	74.74
	6	10 gm	2.01	7.99	79.9
	7	10 gm	2.406	7.594	75.94
	8	10 gm	2.028	7.972	79.72
	9	10 gm	2.46	7.54	75.4
	10	10 gm	2.024	7.776	77.76
Total					771.06%

Average moisture content = 77.106%

Table 3- Moisture content of *Cuscuta reflexa* on host *Nerium oleader*

Material	Number of observations	Weight of fresh stem (W1)	Weight of dried stem (W2)	Difference (W1-W2)	Moisture content %
Cuscuta reflexa Roxb on host *Nerium oleander*	1	10 gm	2.464	7.536	75.36
	2	10 gm	2.368	7.632	76.32
	3	10 gm	2.272	7.728	77.28
	4	10 gm	2.224	7.776	77.76
	5	10 gm	2.349	7.651	76.51
	6	10 gm	2.228	7.772	77.72
	7	10 gm	2.46	7.54	75.4
	8	10 gm	2.364	7.636	76.36
	9	10 gm	2.192	7.808	78.08
	10	10 gm	2.268	7.732	77.32
Total					76.811%

Average moisture content = 76.811%

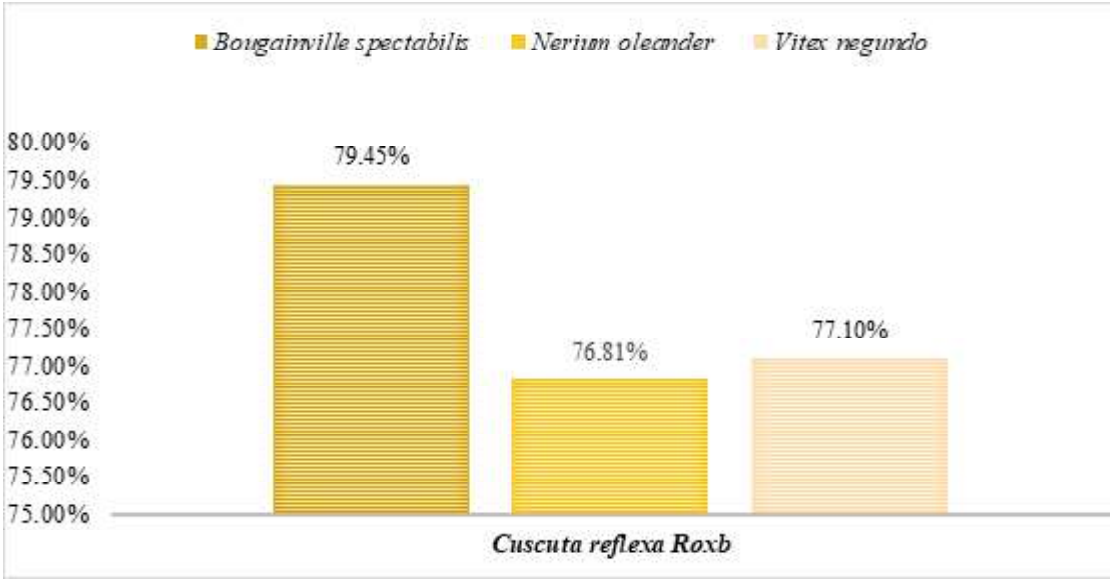

Fig.2: Comparative study on moisture content of *Cuscuta reflexa* on different host.

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