

## **Study of Alkaloid content in Adhatoda zeylanica in Marathwada region**

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### **Abstract:**

Adhatoda zeylanica is the medicinal plant distributed throughout India in Ayurveda, the ancient system of Indian medicine it is commonly known as Vasa. It is belonging to the family Acanthaceae. It commonly grown in waste places and hedge borders. Due to its medicinal use cultivation practices are done.

Important chemical constituents of leaf of Adhatoda includes alkaloids, vasicine, adhatonine, vasicinone, vasicinol. These constituents effects as important drugs prescribed for malarial fever, chronic fever, cough, asthma, intrinsic hemorrhage, leprosy, skin diseases and piles. Hence present study is made to know the total alkaloid content in leaf sample of Adhatoda in Marathwada region.

### **Methodology:**

- Leaf samples of Adhatoda zeylanica from eight districts of Marathwada region were collected, shade dried and powdered.
- Collected leaf samples were taken in two forms as healthy and infected with fungi. In the year 2008-09.
- Both samples were from collected during winter, summer and rainy seasons.
- 5 gm of each healthy and infected leaf powder samples were taken for test of alkaloid as follows.
- 5 gm powdered leaf sample is mixed in a beaker with 200 ml of 10 % CH<sub>3</sub>CO<sub>2</sub>H in C<sub>2</sub>H<sub>5</sub>OH.
- The mixture is covered and allowed to stand for four hours.

- The mixture is then filtered and extract is allowed to become concentrated in water bath till it reaches  $\frac{1}{4}$  of the original volume.
- Concentrated  $\text{NH}_4\text{OH}$  is added till the precipitation is complete.
- The whole solution is allowed to settle down and the precipitated is collected and washed with dilute  $\text{NH}_4\text{OH}$  and then filtered.
- The residue is alkaloid which is then dried and weighed.
- All samples are listed in tabular form.

**Findings:** By applying above procedure following results were obtained (results in table)

**Alkaloid content in different samples of districts in Marathwada region**

2008-09						
Types of Samples in Districts	Summer (Feb-May)		Rainy (June-Sept)		Winter (Oct-Jan)	
	Healthy	Infected	Healthy	Infected	Healthy	Infected
Osmanabad	0.71 gm	0.35 gm	0.37 gm	1.00 gm	0.87 gm	0.74 gm
Nanded	0.81 gm	0.97 gm	0.99 gm	0.94 gm	0.80 gm	0.84 gm
Parbhani	0.88 gm	0.84 gm	0.999 gm	0.94 gm	0.87 gm	0.74 gm
Hingoli	0.87 gm	0.81 gm	0.95 gm	0.84 gm	0.86 gm	0.74 gm
Beed	0.81 gm	0.80 gm	0.94 gm	0.94 gm	0.77 gm	0.09 gm
Aurangabad	0.81 gm	0.81 gm	0.93 gm	0.91 gm	0.73 gm	0.54 gm
Jalna	0.81 gm	0.80 gm	0.99 gm	0.97 gm	0.74 gm	0.64 gm
Latur	0.84 gm	0.81 gm	0.99 gm	0.90 gm	0.91 gm	0.67 gm

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**Result:** Leaf sample infected with fungi shows reduced amount of alkaloids as compared to healthy leaf samples.

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