

## Study of plant disease incidence of *Ocimum sanctum* in Saharsa district

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### ABSTRACT

For epidemiological study, assessment of disease incidence is essential. Disease incidence is the percentage of diseased plant within a sampling unit. To examine the disease incidence in *Ocimum sanctum* a survey was conducted in different villages of three blocks of Saharsa district in winter, summer and rainy seasons. Disease incidence was highest in the village Patori and Sihol of Sattar kataiya block (66.66%) in rainy season. In Kahra village disease incidence was maximum (74%) followed by Basona, Chenpur and Parri village of Kahra block (66.66%) during winter season while in summer season maximum disease incidence was observed in Kusmi, Murli and Sarbeli villages of Banma itahari block (80%).

**Key Words** - Disease incidence, Epidemiology, *Ocimum sanctum*

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### INTRODUCTION

For epidemiological study assessment of disease intensity is essential. Kranz J. (1990) stated that without quantification of disease no studies in epidemiology, no assessment of crop losses and no plant disease surveys and their application should be possible.

According to Seem (1984) disease incidence is the proportion or percentage of diseased plants within a sampling unit.

Disease intensity may be expressed in two ways i.e., disease incidence or disease severity. Disease incidence is the percentage of diseased plants or part of plant in a population while disease severity is the percentage of host tissues or organs covered by symptoms. The choice of evaluating disease severity of disease incidence depends on type of disease or objective of disease assessment. Study of disease severity is appropriate for diseases like rust, downy mildew, powdery mildew, leaf spot, etc.

while study of disease incidence is suitable for most diseases in the early stages of their epidemics.

### MATERIAL & METHOD

In the present study, disease incidence was evaluated in *Ocimum sanctum* in rainy season, summer and winter season. Survey was conducted in different villages of Sattar kataiya block, Kahra block and Banma itahari block of Saharsa district.

Survey was conducted in six villages of Sattar kataiya i.e., Tulsiahi, Bara, Panchagachia, Patori, Lalganj and Sihoul, seven villages of Kahra block i.e., Bangown, Chenpur, Basona, Sulindabad, Parri, Bariahi and Kahra and eight villages of Banma itahari block i.e., Lalpur, Kusmhi, Khorasan, Rasalpur, Murli, Sahuria, Sarbeli and Sugma.

Total plants and diseased plants of *Ocimum sanctum* were counted in each village.

## RESULT

A survey was conducted in rainy, winter and summer season in different villages of Sattar kataiya block, Kahra block and Banma itahari block under Saharsa districts and disease incidence on *Ocimum sanctum* was evaluated. It was observed that some plants were infected with *Erysiphe* sps. causing powdery mildew and some other plants were infected with *Fusarium* sps. causing collar rot. Disease incidence was highest in the village Patori and Sihol of Sattar kataiya block (66.66%) in rainy season. In Kahra village disease incidence was maximum (74%) followed by Basona, Chenpur and Parri village of Kahra block (66.66%) during winter season while in summer season maximum disease incidence was observed in Kusmi, Murli and Sarbeli villages of Banma itahari block (80%). The result is mentioned in Table No. 1, 2 and 3.

**Table 1: Disease incidence in *Ocimum sanctum* in rainy season. Block: Sattar kataiya**

S. No.	Village	No. of infected plants	Total observed plants	Disease incidence
1	Tulsiahi	25	50	50%
2	Bara	30	50	60%
3	Panchagachia	30	50	60%
4	Patori	40	60	66.66%
5	Lalganj	25	50	50%
6	Sihoul	40	60	66.66%

**Table 2: Disease incidence in *Ocimum sanctum* in winter season. Block: Kahra**

S. No.	Village	No. of infected plants	Total observed plants	Disease incidence
1	Bangown	30	50	60%
2	Chenpur	40	60	66.66%
3	Basona	37	60	66.66%
4	Sulindabad	25	40	50%
5	Parri	40	60	66.66%
6	Bariahi	20	60	50%
7	Kahra	37	50	74%

**Table 3: Disease incidence in *Ocimum sanctum* in summer season. Block: Banma itahari**

S. No.	Village	No. of infected plants	Total observed plants	Disease incidence
1	Lalpur	30	60	50%
2	Kusmhi	40	50	80%
3	Khorasan	20	40	50%
4	Rasalpur	35	70	50%
5	Murli	40	50	80%
6	Sahuria	30	50	60%
7	Sarbeli	40	50	80%
8	Sugma	25	50	50%

## CONCLUSION

Disease incidence is the proportion of diseased plants within a sampling unit. In the present study, disease incidence was examined in *Ocimum sanctum* in winter, summer and rainy season from different villages of Saharsa district. Disease incidence was highest in the village Patori and Sihol of Sattar kataiya block (66.66%) in rainy season. In Kahra village disease incidence was maximum (74%) followed by Basona, Chenpur and Parri village of Kahra block (66.66%) during winter season while in summer season maximum disease incidence was observed in Kusmi, Murli and Sarbeli villages of Banma itahari block (80%).

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