

## SOME DISEASES OF HORTICULTURAL PLANTS FROM HIGH RAINFALL ZONE OF WEST BENGAL

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Occurrence of 35 nos. diseases were recorded in high rainfall areas of West Bengal. The pathogen *Colletotrichum capsici*, *Sclerotium rolfsii*, *Rhizoctonia* sp. were wide spread in their occurrence.

### INTRODUCTION

Reports on incidence of diseases in high rainfall zone, particularly in humid region of West Bengal are a few (Khatua *et al.* 1981a, 1981b ; Khatua *et al.*, 1983). To save the crop loss from disease, it is essential to have knowledge about the occurrence of all the diseases of a particular crop. In present investigation attempts were made to record the incidence of disease of Horticultural crops which were not previously recorded in the high rainfall zone of West Bengal.

### MATERIALS AND METHODS

Coochbehar and Jalpaiguri districts of West Bengal come under the high rainfall zone of West Bengal, annual rainfall being above 300 cm. Rainfall is distributed throughout the year. Winter is prolonged in these districts and soils are mostly acidic. Surveys were undertaken every month in these two districts since 1980 to identify the pattern of diseases among different Horticultural plants. The incidence of all the diseases with their detailed symptoms, seventy etc. for a particular crop were recorded. Koch's postulate was followed for proper identification of previously unrecorded diseases.

### RESULTS AND DISCUSSION

During the surveys severe incidence of some of the diseases, a few of which were observed for first time of India, were encountered (Table 1). Among the pathogens *Colletotrichum capsici*, *Sclerotium rolfsii*, *Rhizoctonia Aclani* were wide spread in occurrence (Table 1).

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TABLE 1. Disease pattern of horticultural plants in high rain fed areas of West Bengal

Causal organism	Disease	Pla	Location	Time of incidence
1	2		4	5
<i>Colletotrichum capsici</i> (Syd.) Butler & Bisby	Anthraxnose	<i>Peperomia obtusifolia</i> var- <i>variegata</i>	Cooch Behar	July—September
	Leaf spot	<i>Caladium bicolor</i>	Cooch Behar & Jalpaiguri	July—September
	Leaf spot	<i>Aglaonema costatum</i>	Cooch Behar	June—August
	Leaf spot	<i>Allamanda cathartica</i>	Cooch Behar	July
	Leaf spot	<i>Jatropha podagrica</i>	Cooch Behar & Jalpaiguri	July—August
	Leaf spot	<i>Acalypha hispida</i>	Cooch Behar	August—September
	Leaf spot	<i>Citrus limonia</i> var. <i>variegata</i>	Cooch Behar	September—October
<i>Phytophthora infestans</i> (Mont.) Debary	Late blight	<i>Lycopersicon esculentum</i>	Cooch Behar & Jalpaiguri	December—January
<i>Phytophthora parasitica</i> Dastur	Fruit rot	<i>Psidium guajava</i>	Jalpaiguri	August
<i>Pestalotia palmarum</i> Cooke	Leaf blight	<i>Cocos nucifera</i>	Cooch Behar & Jalpaiguri	January—March
<i>Sclerotium rolfsii</i> Sacc	Neck	<i>Pollanthes tuberosa</i>	Cooch Behar	June—October
	Neck rot	<i>Hippeastrum hybridum</i>	Cooch Behar	July—October
	Neck rot	<i>Excharis grandiflora</i>	Cooch Behar	July—August
	Basal rot	<i>Iris sibirica</i>	Cooch Behar	July—September
	Basal rot	<i>Iris graminea</i>	Cooch Behar	July—September
	Collar rot	<i>Amorphallus companulatus</i>	Cooch Behar & Jalpaiguri	June—August

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1	2	3	4	5
	Stem rot	<i>Coleus bolamei</i>	Cooch Behar & Jalpaiguri	September
	✓ Leaf spot	<i>Bryophyllum pinnatum</i>	Cooch Behar	August ✓
	Foot rot	<i>Zebrina pendula</i>	Cooch Behar	July—August
	Collar rot	<i>Maranta leuconeura</i>	Cooch Behar	August—September
	tem rot	<i>Sedum sieboldii</i>	Cooch Behar	July—September
	Leaf rot	<i>Begonia rex</i>	Cooch Behar & Jalpaiguri	July—August
	Leaf rot	<i>Lantana camara</i> var. <i>depressa</i>	Cooch Behar	August—September
	Stem rot and			
	Leaf spot	<i>Setcreasea purpurea</i>	Cooch Behar	August—October
	Foot rot	<i>Tagetes erecta</i>	Cooch Behar & Jalpaiguri	October
	Leaf rot	<i>Mussaenda philippica</i>	Cooch B-har	August—September
	Leaf spot	<i>Paphiopedilum fairieanum</i>	Cooch Behar	August
	Leaf spot	<i>Piper nigrum</i>	Cooch Behar & Jalpaiguri	August—October
	Foot rot	<i>Mirabilis jalappa</i>	Cooch Behar	August
	Foot rot	<i>Gomphrena globosa</i>	Cooch Behar	August
	Foot rot	<i>Clitoria ternata</i>	Cooch Behar	August
	Foot rot	<i>Daucus carota</i>	Cooch Behar & Jalpaiguri	March- April
	Stem rot	<i>Coriandrum sativum</i>	Cooch Behar & Jalpaiguri	March
	Foot rot	<i>Foeniculum vulgare</i>	Cooch Behar	March
	Leaf rot	<i>Aloe variegata</i>	Cooch Behar & Jalpaiguri	August—September
	Leaf blight	<i>Acalypha tricolor</i> var. <i>batica</i>	Cooch Behar	July—September

*Rhizoctonia* sp. Kwhn.

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	2	3	4	5
	Leaf blight	<i>Eranthemum bicolor</i>	Cooch Behar	September—October
	Leaf blight	<i>Eranthemum tricolor</i>	Cooch Behar	September—October
	Leaf blight	<i>Mussaenda philippica</i>	Cooch Behar	August—September
	Leaf blight	<i>Pothos aureus</i>	Jalpaiguri	August
	Leaf blight	<i>Passiflora caerulea</i>	Cooch Behar	August—September
	Leaf blight	<i>Begonia rex</i>	Jalpaiguri	September—October
	Leaf blight	<i>Ficus repens</i>	Cooch Behar	September—October
	Leaf blight	<i>Sedum sieboldii</i>	Cooch Behar	August—September
	Leaf blight	<i>Graptophyllum hortensis</i>	Cooch Behar	August—September
<i>Macrophomina phaseolina</i> (Tassi) Goid	Foot rot	<i>Cucumis sativus</i>	Cooch Behar & Jalpaiguri	August
	Foot rot	<i>Lagenaria siceraria</i>	Cooch Behar & Jalpaiguri	August

*Colletotrichum capsici* mainly caused leaf spot diseases while typical anthracnose symptom was noted in *Peperomia obtusifolia* var. *variegata*.

*Sclerotium rolfsii* was responsible for foot rot, neck rot, basal rot, collar rot, stem rot diseases and in a few cases it caused leaf spot and leaf rot disease. The spots on *Bryophyllum pinnatum* and *Piper nigrum* were circular with distinct zonations and severe only on lower leaves. Sclerotia produced on fallen leaves and liverworts were re-distributed by rain splash and such sclerotia coming in contact with the leaves caused leaf rot or spot symptom. Leaf rot disease of *Mussaenda philippica* was noticed in young plants only and leaf rot of *Lantana camara* var. *depressa* occurred when plants grow luxuriously in rainy season.

*Rhizoctonia* sp. caused leaf blight disease symptoms on various hosts. Similar blight was also observed on *Mussaenda philippica* in young plants only. *Macrophomina phaseolina* developed foot rot symptoms on cucurbits.

*Phytophthora parasitica* was involved in causing fruit rot of guava while *P. infestans* caused leaf blight, twing blight and fruit rot of tomato.

Leaf blight of coconut caused by *Pestalotia palmarum* was severe during January to March. Nearly 80 percent plants of Cooch Behar district showed a burnt appearance in 1983. Dark brown spots developed on fruits. Fruits produced during that period were reduced in size.

#### ACKNOWLEDGEMENT

The authors are thankful to Prof-in-Charge, North Bengal Campus, B. C. K. V. for providing facility for survey and Dr. B. K. Jana, Lecturer in Horticulture for his help during survey.

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