

## Status and distribution of sheath blight of rice in Jammu

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### ABSTRACT

Extensive survey conducted in Jammu Division during 2005-06 indicated that inter district disease severity varied from 31.7 percent (Udhampur) to 75.18 percent (Jammu) and corresponding severity between 16.2 to 32.8 percent. In 2006, the incidence was comparatively low and ranged from 30.0 percent in Udhampur at stem elongation stage to 72.8 percent at maturity stage in Jammu with corresponding severity of 14.2 to 31.8 percent. Among the districts, the disease was rated as low in Udhampur followed by medium in Kathua and high in Jammu district

**Key words:** rice, sheath blight, distribution, Jammu

Rice is one of the most important cereal crops of the world. Rice is grown in 116 thousand hectares at Jammu division of Jammu and Kashmir with an average productivity of 2.4 t ha<sup>-1</sup> (Anonymous 2006). This crop suffers a set back by a number of diseases and among them sheath blight caused by *Rhizoctonia solani* Kuhn is the most important disease causing enormous loss by reducing grain yield quality. It is potentially a devastating disease of rice in all temperate and tropical rice production regions, especially in irrigated production system (Dath, 1990). Estimated yield reduction due to sheath blight have been reported to range from 5.2 to 70 percent (Naidu, 1992). In order to assess the status of this disease an extensive survey in Kathua was undertaken.

Survey in Kathua and Udhampur district of Jammu Division were conducted during 2006 and 2007. Five villages in each district were selected and ten rice fields of every village were marked. The disease was recorded using quadrant (1×1 m) at 5 spots in each field. Observations were recorded at stem elongation and maturity stages of the crop.

Disease severity was calculated by using the formula suggested by Yoshimura (1954). It was observed that the disease was present in all the rice growing areas surveyed (Table 1). Maximum disease incidence of 46.6 and 85.6 percent was observed during stem elongation and maturity stages in Maal Shah in

Jammu district followed by Barwal (44.6 and 73.7% at stem elongation stage and maturity stage, respectively) in Kathua district. However, at Jaganu Marh of Udhampur district, the maximum disease incidence of 29.5 and 69.3 percent was encountered at stem elongation and maturity stages, respectively.

The variation in disease incidence and intensity observed in different villages surveyed could be attributed to the use of indigenous and relatively resistant/susceptible varieties, monoculturing, profuse application of nitrogenous fertilizers and occasional or rather negligence in adoption of disease management strategies. Continuous prevalence of pathogen and its changing status from sub-tropical to temperate regions necessitates that a sound scientific basis needs to be established to manage the disease.

### REFERENCES

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Table 1. Percent disease incidence and severity of sheath blight of rice in different districts of Jammu Division

District	Location	Stage of crop											
		Stem elongation						Maturity					
		2005		2006		2007		2005		2006		2007	
Jammu	Muthi	44.8	22.2	43.7	18.5	44.3	20.4	75.3	35.5	73.7	29.5	74.5	32.5
	Sangrampur	39.7	26.7	47.0	20.0	43.4	23.4	77.8	32.8	66.3	30.6	72.1	31.7
	Miran sahib	35.6	18.3	39.6	15.5	37.6	16.9	69.4	29.9	64.5	36.8	66.9	33.4
	Kuliean	45.7	26.0	32.8	15.9	39.3	20.9	67.8	27.7	60.5	20.5	64.2	24.1
	Maal Shah	46.6	24.7	43.3	21.5	44.9	23.1	85.6	37.9	86.6	37.0	86.1	37.5
	Mean±SEm	42.5±2.09	23.6±1.52	41.3±2.42	18.3±1.15	41.9±1.45	20.9±1.17	75.18±3.18	32.8±1.84	70.3±4.59	30.1±3.01	72.8±3.80	31.8±2.17
Kathua	Chapaki	35.5	24.7	32.6	17.5	34.1	21.1	63.8	28.5	60.5	25.9	62.2	27.2
	Ragonathpur	38.7	20.2	35.3	15.3	37.0	17.8	62.6	25.0	59.5	22.6	61.1	23.8
	Marheen	42.4	15.5	39.7	10.9	41.1	13.2	69.2	28.9	56.1	25.4	62.7	27.2
	Uttri	30.8	22.2	35.5	19.5	33.2	20.9	72.5	31.5	68.8	28.3	70.7	29.9
	Barwal	44.6	19.8	42.6	19.3	43.6	19.6	73.7	32.0	74.0	25.5	73.9	28.8
	Mean±SEm	38.4±2.45	20.5±1.51	37.1±1.78	16.5±1.59	37.8±2.0	18.5±1.45	68.4±2.21	29.2±1.25	63.8±3.29	25.5±0.90	66.1±2.59	27.4±1.03
Udhampur	Umala	28.8	15.6	25.6	15.0	27.2	15.3	56.2	25.0	52.9	23.7	54.6	24.4
	Ladan	27.6	20.0	32.2	9.8	29.9	14.9	65.7	18.6	64.5	20.2	65.1	19.4
	Jaganu Marh	39.5	13.2	35.6	10.7	37.6	11.9	69.3	20.0	70.0	18.8	69.7	19.4
	Kotali	35.5	13.8	30.8	15.5	33.2	14.7	62.8	24.3	56.5	25.6	59.7	24.9
	Rown Domail	26.8	18.6	25.9	20.2	26.4	19.4	55.8	25.7	50.9	23.8	53.4	24.8
	Mean±SEm	31.7±2.49	16.2±1.32	30.0±1.91	14.2±1.86	30.9±2.06	15.2±1.20	61.9±2.64	22.7±1.43	58.9±3.60	22.4±1.25	60.5±3.09	22.6±1.30