

POTATO WART DISEASE IN BHUTAN

POTATO WART (*Synchytrium endobioticum*) Schilf. (Perc.) was recorded for the first time by the present authors in Bhutan during a phytosanitary inspection-cum-reving survey of the Potato crop in May, 1977.

In a rapid reving survey, 138 fields were inspected at random in 16 major potato growing areas spread over three districts of Thimphu, Paro and Ha in Western Bhutan. 20 plants from each field were examined for Wart inspection. Suspected samples ere examined microscopically wto confirm the associated pathogen. The results are presnted in Table.

The disease was detected at Chapcha and Cheemakethi in Thimphu; and Hatey, Irgu and Wankha in Ha districts. On the basis of plant count, percentages of infection on Red and White varieties ranged from 10 to 19% at Chapcha, 0 to 31% at Cheemakethi respectively. In Ha district upto 50.0% plant infection was observed at Hatey but was low at Ha town (0.9%), Irgu (0.5%) and Wankha (3.3%).

The potato crop in Paro area appeared free from Wart. All the 23 fields inspected were free from any Wart infection. Similarly no wart was detected at Damchu, Bunakha, Simtokha, Ushipang and Hansu areas in Thimphu district.

The survey also revealed that wart was severe on fields where same source of seed as used year after year.

The authors are grateful to Dr. S. N. Banerjee, plant Protection Adviser to the Govt. of India, Directorate of Plant Protection, Quarantine and Storage, Faridabad, Haryana; Dr. B. B. Nagaich, Director, Central potato Research Institute, Simla and Dr. K. Sen Gupta, Director of Agriculture, Govt. of West Bengal for affording the oppertunity for inspection of potato crops in Bhutan,

Table 1. *INCIDENCE OF POTATO WART IN BHUTAN (1977)*

Date	District	Locality	Variety	No. of holding examine	Approx. area ha.	% hills affected with wart	
1	2	3	4	5	6	7	
23.5.77 :	Thimphu	Chapcha	Swiss Red	3	0.4	0.0	
			Local white	3	0.4	15.1	
30.5.77 :		Chapcha	Local white	10	2.2	19.0	
			Local Red	1	0.1	10.0	
30.5.77 :		Damchu	Local white	4	0.8	0.0	
31.5.77 :		Bunakha	Swiss Red	1	0.4	0.0	
			Local white	5	0.6	0.0	
31.5.77 :		Cheemakothi	Local white	7	2.0	31.0	
			Japanese Red	1	0.1	0.0	
31.5.77 :		Newarin	Local white	1	0.1	0.0	
24.5.77 :		Simtokaha	SLB/Z-391b	5	0.10	0.0	
			Local white	12	1.0	0.0	
		Yushipang	SLB/Z-391b	20	1.5	0.0	
			Kufri Jyoti	11	2.4	0.0	
27.5.77 :	Paro	Honshu	Local white	15	4.0	0.0	
			Chentonychy	Local white	3	0.4	0.0
		Dawakha	Kufri Jyoti	10	2.0	0.0	
		Jagathang	Local white	4	0.6	0.0	
		Kyichulhakpang	Local white	2	0.4	0.0	
25.5.77 :		Shaba	Local white	4	0.6	0.0	
29.5.77 :	Ha	Ha town	Local town	5	1.2	0.5	
28.5.77 :		Hatey	Local white	6	1.0	50.0	
			Irgu	Local white	3	0.6	2.0
			Wankha	Local white	4	1.6	3.3

The authors also thanks specially the Royal Bhutan Govt. and its Officers at whose request and as whose honoured guests they inspected the crops,

Directorate of Agriculture, Govt. of West Bengal, Calcutta,

Directorate of Plant Protection, Quarantine & Storage,

Faridabad (Haryana); and

Central Potato Research Institute's Station, Patna (Bihar)

S. K. MUKHERJI

M. H. RAO

DEVENDRA SAHA