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Incidence of a Bacterial Blight of *Lablab niger* Caused by *Pseudomonas pisi*

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The causal agent of a bacterial blight disease on *Lablab niger* Medikus L. was identified as *Pseudomonas pisi* (Sackett) Breed *et al.* The pathogen induces water-soaked lesions on all the above ground parts of this host, viz., stem, petioles, leaves and pods. Loss in yield is mainly due to the premature defoliation and fall of pods.

Scattered incidence of bacterial blight disease was noticed on *Lablab niger* Medikus L. varieties cultivated in the Tamil Nadu Agricultural University, Coimbatore in the months of November, December of 1976 and January, 1977. The disease caused death of plants sporadically in field. The causal organism is characterised and the results are presented here.

The infected plants appeared chlorotic and were stunted when compared to the healthy plants. All the above ground parts of the infected plants, like stem, petioles, leaves and pods exhibited water-soaked lesions. In the leaves, the lesions had a characteristic halo around such infection centers. Premature fall of leaves and pods was a common symptom which accounts for the losses in seed yield. Whenever pods were found in an infected plant, their seeds shrivelled

and contaminated by the slimy growth of the pathogen.

MATERIALS AND METHODS

The pathogen was isolated from leaves and pods. Aliquots of the sterile water suspension of the pathogen was streaked onto nutrient agar, tetrazolium chloride agar (i.e., nutrient agar containing 1 ml per litre of 1 per cent solution of 2, 3, 5' triphenyl tetrazolium chloride; TTC) (Kelman, 1954) and King's Medium B (King *et al.*, 1954). Well isolated typical colonies were grown in nutrient broth, usually for 24 hours and used as inoculum. Leaves and pods of 7 and 27 day-old plants (variety Co.7) were infiltrated with the bacterial suspension (0.6×10^6 cells/ml) with a compressed sprayer. Plants of French bean (*Phaseolus vulgaris* L) and soybean (*Glycine max* Merr.) were also likewise inoculated using procedures described previously (Gnanamanickam and Patil, 1976).

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RESULTS AND DISCUSSION

The bacterium is a rod and measured 0.56 - 0.75 x 1.2 - 3.2. It is motile by a polar flagellum; Gram negative and it is not acid fast. It is aerobic, produces pink centered colonies on TTC agar and produces fluorescin, the green pigment in King's Medium B. In nutrient agar, the colonies are greyish, round and are raised. The pathogen liquefies gelatin but does not reduce nitrates, does not produce indole or H₂S and does not hydrolyze starch. Only leaves and pods of *Lablab niger* were found to be susceptible. It is pathogenic only to *L. niger* and not to French beans and Soybean. Based on these morphological, biochemical and pathogenic properties, the bacterium was identified as *Pseudomonas pisi* (Sackett) Breed et al. (Elliot 1951; Breed et al, 1957). An authentic culture has been deposited at the type culture collec-

tion of Tamil Nadu Agricultural University under item No. 57.

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