

## NEW DISEASE REPORT

**Bacterial soft rot of aloe caused by *Pectobacterium chrysanthemi*: a new report from India**

K. Mandal and S. Maiti\*

National Research Centre for Medicinal and Aromatic Plants, Boriavi, Anand – 387310, Gujarat, India

A new leaf rot disease of *Aloe vera* was observed for the first time in 2000, at the National Research Centre for Medicinal and Aromatic Plants, India. The disease was serious when abundant moisture was available through irrigation and/or rain. The symptoms started as water-soaked lesions at the base of leaves. The rotting progressed very fast and the whole plant died within 2–3 days. As rotting progressed, the leaf epidermis bulged out due to gas formation and the leaf content was converted to a slimy mass, which was eventually released.

A bacterium was isolated from the infected tissues. The organism was a nonspore-forming, motile, short rod, and usually single. It produced circular, convex, small (< 1 mm) colonies without pigmentation after 24 h on nutrient agar. The bacterium produced positive reactions to: catalase; levan production; gelatine liquefaction; anaerobic growth; fermentative utilization of glucose and gas formation; utilization and acid production from arabinose, ribose, xylose, galactose, sucrose, fructose, salicin, inositol, mannitol, cellobiose; and lysozyme activity. Negative reactions were found to: Gram staining; oxidase; starch hydrolysis; H<sub>2</sub>S production; acid production from methyl- $\alpha$ -D-glucoside, lactose, sorbitol, maltose, trehalose, dulcitol and adonitol;

and production of reducing substance from sucrose. Pathogenicity was confirmed by inoculation of leaves in potted plants or excised leaves with bacterial suspension ( $\approx 6 \times 10^6$  CFU mL<sup>-1</sup>) either infiltrated or injected. Characteristic symptoms appeared within 24 h of inoculation.

The bacterium was identified as *Pectobacterium chrysanthemi* on the basis of the above characteristics along with quantitative fatty acid methyl ester analysis and metabolic profiling (Biolog) at CABI Bioscience (IMI 389157). This disease was first reported from the Caribbean island of Aruba (de Laat *et al.*, 1994) and Korea (Jin *et al.*, 1994). This is the first report of the disease from India.

**References**

- Jin KS, Lee SW, Kim JJ, Ryu HY, 1994. Identification of bacterial isolates obtained from diseased orchid and aloe plants caused by *Erwinia chrysanthemi*. *RDA Journal of Agricultural Science Crop Protection* **36**, 301–6.
- de Laat PCA, Verhoeven JTW, Janse JD, 1994. Bacterial leaf rot of *Aloe vera* L., caused by *Erwinia chrysanthemi* biovar 3. *European Journal of Plant Pathology* **100**, 81–4.

\*E-mail: satyabratamaiti@hotmail.com

Accepted 16 February 2005 at [www.bspp.org.uk/ndr](http://www.bspp.org.uk/ndr) where figures relating to this paper can be viewed