

D-37 Two pathogenic strains of *Pseudomonas fluorescens* acting together to cause chilli wilt

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Chilli (*Capsicum annum* L.) is a very important cash crop in Sri Lanka. The crop losses due to soil borne pathogens are considerable. Bacterial wilt caused by *Pseudomonas solanacearum* is considered as the most important, particularly in the lowland wet zone. However repeated attempts to isolate wilt causing organism from diseased plants collected from Kiribbanwewa, Embilipitiya in the dry zone did not result in *P.solanacearum*. But isolation from the materials oozing out of cut stems gave consistently 2 morphologically distinguishable bacterial strains which were later identified as strains of *Pseudomonas fluorescens*. As neither of these isolates when inoculated as a soil drench or by mixing with soil caused the symptoms, a mixture of the 2 was tested.

Damping-off of 55% of the seedlings arising from the seeds sown in inoculated soil occurred within 48 h after germination. From the survived plants, 22% suffered sudden and permanent wilting between 75-90 days. Others reached maturity and flowered. Of 10 days old seedlings inoculated by a soil drench, 42% suffered damping-off within 48 h. The rest of the seedlings behaved as above.

Accordingly, for the first time 2 *P.fluorescens* causing damping-off and bacterial wilt of chilli are reported. It was observed that these 2 diseases are the most

common in Kiribbanwewa chilli fields. Therefore an island wide survey to assess the importance of the disease at national level is proposed.