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EMERGING STRAINS OF *RALSTONIA SOLANACEARUM* IN MARTINIQUE (FRENCH WEST INDIES): A CASE STUDY FOR EPIDEMIOLOGY OF BACTERIAL WILT

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Abstract:
Bacterial wilt of Solanaceous crops, described in Martinique in the 1960's, was mainly caused by biovar 3 and biovar 1 strains of *Ralstonia solanacearum*. From 1999 anthurium fields were strongly affected by biovar 1 strains, genotypically identical to insect-transmitted "Moko" (bacterial wilt of banana) strains (MLG25, sequevar 4, ecotype SFR/A), but not pathogenic (NP) on Cavendish Banana. The disease has now spread over the island on a widened range of species and crops (*Heliconia caribea*, Cucurbitaceous crops, several weeds). Fegan and Prior (2004) revised the intraspecific classification within *R. solanacearum* and proposed molecular tools to distinguish four phylotypes (I to IV, each of which are subdivided in sequevars) and to discriminate between banana-pathogenic strains and non-pathogenic strains (NP) within the *R. solanacaearum* strains belonging to phylotype II, sequevar 4. A collection of 215 isolates collected from 1989 to 2003 during several surveys, were characterized according to this classification. Isolates from Cucurbitaceae, Heliconia, weeds, as well as most of the anthurium isolates were typed in this group of new strains belonging to phylotype II sequevar 4NP, which appeared in Martinique in 1998. The isolates from Solanaceae were distributed among new (phylotype II sequevar 4NP) and "historical" strains (phylotypes I and II, biovar 3 and 1 respectively), but the ratio of new strains on tomato has increased dramatically since 2002. These results suggest the emergence of a new population of *R. solanacaearum* in Martinique, with a broad host range, which is most probably endemic (since it is well established on weeds), and is spreading rapidly. This new population may overcome the "historical" population, particularly on tomato. The emergence of these new strains on vegetable crops may be induced by rotations with cucurbitaceous and musaceous plants.

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