

SYMPTOM PATTERN OF COMMON BEAN GENOTYPES INOCULATED WITH DIFFERENT ISOLATES OF *CURTOBACTERIUM FLACCUMFACIENS* PV. *FLACCUMFACIENS*

Adriane Wendland¹, Nara Edreira Alencar², Leonardo Cunha Melo¹, Joaquim Geraldo Cáprio Costa¹, Maria José Del Peloso¹, Helton Santos Pereira¹, Luis Cláudio Faria¹, Enderson Petrônio de Brito Ferreira¹ and Marcio Vinicius C.B. Côrtes¹

¹Embrapa Arroz e Feijão, Rod. GO 462, Km 12, 75375-000 Santo Antônio de Goiás, Goiás, Brazil; and ²Universidade Federal de Goiás, Goiânia, Goiás, Brazil
*e-mail: adrianew@cnpaf.embrapa.br

INTRODUCTION

Curtobacterium flaccumfaciens pv. *flaccumfaciens* (Cff), the causal agent of the bacterial wilt of common bean (*Phaseolus vulgaris*), is a vascular pathogen of difficult control, first detected in São Paulo State, Brazil in 1995 (Maringoni and Rosa, 1997). Due to the difficulty in controlling this disease, genetic resistance has been the best option for disease management. The aim of this study was to evaluate the disease progress and difference in plant growth of two common bean genotypes considered resistant (Ouro Branco) and susceptible (LMRs 11997) to the bacterial wilt, and the differential interaction between isolates.

MATERIALS AND METHODS

The disease symptoms as wilt (M), flaccidity (F), yellowing (A), leaf burn (BQ) and wizen leaf board (BE) were assessed at 7, 11, 14 e 18 days after inoculation with inoculation of seven Cff isolates in plants at ten days after sowing. The plant height was measured at 14 days after inoculation.

RESULTS AND DISCUSSION

Ouro Branco showed lower intensity of disease and the symptoms of wilt and flaccidity were more frequent. Plants inoculated with the isolate CffCNPFAF 03 did not show symptoms of yellowing and wizen board throughout the period of evaluation. It was observed variation in plant height according to the isolates used (Figure 1). UnB 1252, CNPAFCff 01, CNPAFCff 02, CNPAFCff 03 and CNPAFCff 04 isolates were more aggressive, causing further reduction in height, differing from the control (non-inoculated plants) and IAPAR 12771 and IAPAR 14305 isolates were statistically equal to the control. In contrast, the LMRs 11997 showed higher intensity of disease and the plants showed all symptoms evaluated (M, F, A, BE and BQ). The amount of plants that showed yellowing, burning, and wizen leaf board was higher for all isolates (Figure 2) and there was a similar reduction in plant height, where the isolates differed only from control. Therefore, it was possible to observe that the pattern of symptoms and plant growth (height) varied according to the genotype and/or isolate used. The disease scale actually in use for selection of resistant genotypes was adapted from *Fusarium oxysporum* f. sp. *phaseoli*-bean pathosystem by Rava et al. (2003). Therefore, it is necessary to develop a diagrammatic scale for bacterial wilt, which might be used for different genotypes inoculated.

REFERENCES

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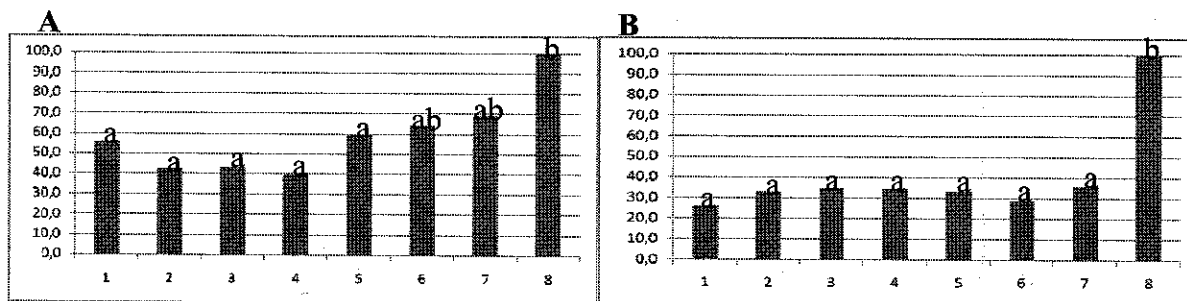


Figure 1. Mean percentage of the plant height of common bean cv. Ouro Branco (A) and line LMRS 11997 (B) inoculated with seven *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* isolates at 14 days after inoculation. Cff Isolates: 1. UnB 1252; 2. CNPAFCff 01; 3. CNPAFCff 02; 4. CNPAFCff 03; 5. CNPAFCff 04; 6. IAPAR 12771; 7. IAPAR 14305; 8. CONTROL. Columns followed by the same letter are not different by Tukey's test ($p < 0.05$).

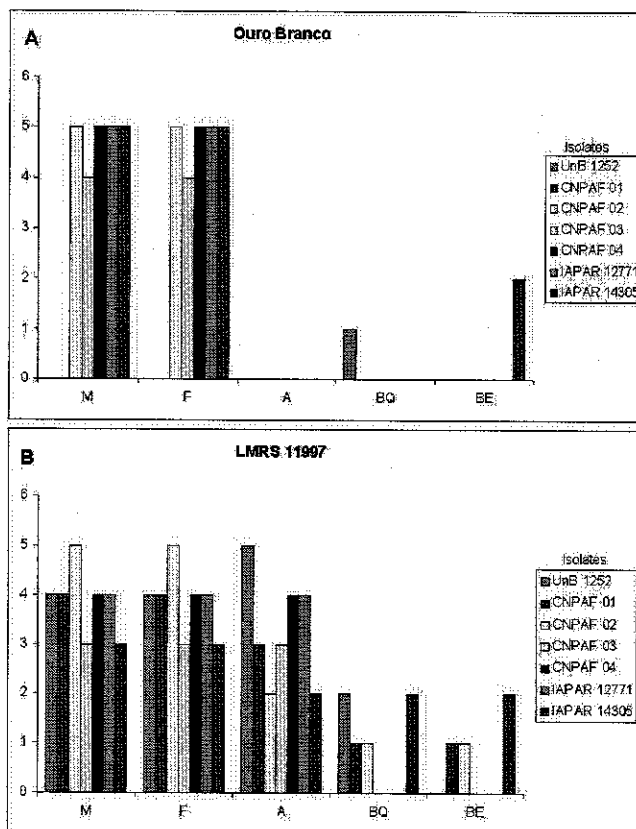


Figure 2. Comparison of symptoms between Ouro Branco - resistant and LMRS 11997 - susceptible (B), at seven days after inoculation with *Curtobacterium flaccumfaciens* pv. *flaccumfaciens*. The disease symptoms evaluated were wilt (M), flaccidity (F), yellowing (A), leaf burn (BQ) and wizen leaf board (BE).