

ANALYSES of the PATHOGENIC VARIABILITY of *Uromyces appendiculatus* in Some Regions of BRAZIL

Ana Lilia Alzate-Marin^{1*}, Thiago Lívio P. O. Souza¹, Aloísio Sartorato², Maurílio Alves Moreira^{1,3} and Everaldo Gonçalves de Barros^{1,4}

¹Instituto de Biotecnologia Aplicada à Agropecuária - BIOAGRO, Universidade Federal de Viçosa (UFV), 36571-000 Viçosa, MG, Brazil, ²Embrapa Arroz e Feijão, P. O. Box 179, 75375-000 Santo Antonio de Goiás, Go, Brazil, ³Departamento de Bioquímica e Biologia Molecular, UFV, Viçosa, MG, Brazil, ⁴Departamento de Biologia Geral, UFV, Viçosa, MG, Brazil.

*Corresponding author: anaalzatem@yahoo.com.br

Common bean (*Phaseolus vulgaris* L.) rust, caused by *Uromyces appendiculatus*, is among the most important fungal diseases affecting this crop in Brazil and in other parts of the world. Several studies have demonstrated the extensive pathogenic variability of *U. appendiculatus* in the States of Santa Catarina, Rio Grande do Sul, Goiás and Minas Gerais. However, the use of distinct sets of differential cultivars made the comparison among the obtained data somewhat difficult. This fact also prevented the identification of sources with wide resistance spectra in these regions. Consequently, the main goal of this work was to identify, among the *U. appendiculatus* differential cultivars, those with the widest resistance spectra for this pathogen. Data were collected from previously published paper with *U. appendiculatus* isolates characterization from Brazilian States of Santa Catarina, Rio Grande do Sul and Goiás (Santos & Rios, 2000), and from our recent characterization of isolates from the State of Minas Gerais (Souza et al., 2002). On these two isolates characterization it was used the differential series proposed on the "The 1983 Bean Rust Workshop" (Stavelly et al., 1983).

Our analyses showed that a total of 39 pathotypes of *U. appendiculatus* were identified in the States of Santa Catarina, Rio Grande do Sul, Goiás and Minas Gerais (Table 1). These pathotypes were named from 1 to 39. Only the pathotypes 16 and 19 were identified from more than one isolate. The cultivars with the widest resistance spectra were Redlands Pioneer (resistant to all pathotypes), California Small White 643 and Brown Beauty (resistant to 38 pathotypes), AxS 37 (resistant to 37 pathotypes) and Compuesto Negro Chimaltenango (resistant to 34 pathotypes). In despite of the fact that the cultivars California Small White 643, AxS 37 and Brown Beauty have been excluded from the new differential series proposed in 2002, in South African, we strongly recommend that these three cultivars need to be maintained for future pathogenic variability studies in Brazil. Otherwise, the information on resistance durability in these cultivars will be missed. The cultivars Ecuador 299, Mexico 235 and Mexico 309 showed high resistance spectra only in Goiás and Minas Gerais States. While, the cultivar Kentucky Wonder 814 showed high resistance spectra only in Rio Grande do Sul and Santa Catarina States (Table 1).

