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# VIRULENCE GENES OF A NEW RACE OF RUST (HEMILEIA VASTATRIX) AFFECTING LEMPIRA COFFEE AND OTHER RESISTANT/SUSCEPTIBLE VARIETIES IN HONDURAS

The Lempira variety released in Honduras 1998 was qualified as 100% resistant to races of rust I and II by the Coffee Rust Research Centre (CIFC). However, in recent years the disease has been reported in seed foundation plots and producer farms, the most recent epidemic report happened in April 2016, and affected 210 Ha. Considering that this coffee variety constitutes 45% of the cultivated area, there is a need to identify the virulence genes of the new Hemileia vastatrix strain, and to determine which coffee varieties may be resistant or susceptible. For this purpose, mass samples of rust inoculated on leaf discs of differential clones 1343/269, 110/5, 147/1, 152/3, 33/1, 419/20, 832/1, 832/2, were used, together with 87/1, 1006/10, 420/10 and 420/2, from the Federal University of Vicosa and inocaluted to the main cultivated resistant varieties (Parainema and IHCAFE-90) plus 7 promising genotypes, under controlled temperature conditions and relative humidity. After 20 to 60 days, seven virulence genes were identified (v1, v2, v4, v5, v6, v7, and v9). Of these the v1, v4, v6, v7 and v9 had not been reported in Honduras. It is inferred that this rust population is composed of simple races of 2 genes (v5 combined with v6, v7 or v9) and races with 3,4,5,6 and 7 genes as one of the most complex and aggressive breeds described but lacking the v3 and v8 gene. In addition, it was found that Parainema, H27, T5296-170, Central American, Pacamara yellow and Anacafe-14 are resistant because they possess the SH8 gene absent in Lempira, while IHCAFE-90 and Obatá have 20% susceptibility and Ruiru II is susceptible. This reveals the diversity of rust virulence genes, enables renewal and the increasing reduction of available natural sources of resistance.

## Country or International Organization

Honduran Coffee Institute

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