

Differentiation of isolates of *Colletotrichum gloeosporioides* using RAPD

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Randomly amplified polymorphic DNA (RAPD) method was used to differentiate isolates of *Colletotrichum gloeosporioides* isolated from papaya grown in different parts of Southern India. DNA samples were initially amplified by twenty different random OPA primers, of which, 2 of them (OPA 3 and OPA 14) found informative and were used in amplifying individual DNA samples from eight isolates. Experiment was repeated to confirm the reproducibility of the amplified products obtained. OPA 3 and OPA 14 gave polymorphic PCR products from all isolates of *C. gloeosporioides*. There was a common band for all isolates when amplified with OPA 3 (1200 bp) and OPA 14 (965 bp). It is often assumed that DNA fragments of the same molecular size amplified in RAPD assays represent homologous sequences. Therefore, isolates with monomorphic banding pattern can be considered having similar genetic composition and may be specific to *Colletotrichum gloeosporioides* in this study. However, there was a greater variation observed among isolates according to band patterns, despite those two common bands. With OPA 3 primer, IIHR-1, AP-FP and CB isolates produced same band pattern while band patterns of AP-FB, NM-P and IIHR-0 isolates were similar. Both, HD-3 and NM-F isolates produced different types of band pattern. The RAPD fragments amplified with primer OPA 14 showed similar band pattern with CB and IIHR-0 isolates. There was a similarity observed among isolates of HD, IIHR-1 and NM-P. Isolates AP-FP, AP-FB and NM-F all differed in their band pattern among themselves and with others. According to the experiment, RAPD technique can be useful in differentiating isolates of *C. gloeosporioides* causing anthracnose disease of papaya.

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