

## INTISARI

Mangga (*Mangifera indica* L.) merupakan salah satu komoditas hortikultura di Indonesia. Sebesar 69.18% produksi mangga di Indonesia berada di Pulau Jawa. Produksi mangga di Indonesia dihadapkan dengan berbagai tantangan yang menyebabkan fluktuasi produksi. Penurunan kualitas dan kuantitas produksi disebabkan salah satunya oleh organisme pengganggu tanaman yaitu genus *Colletotrichum* dengan estimasi kehilangan hasil dapat mencapai 100%. Meskipun dampak signifikan dari infeksi *Colletotrichum* spp. berada pada fase pascapanen, namun fase ini tidak dapat dipisahkan dari fase pra-panen di lapangan dimana infeksi awal *Colletotrichum* spp. seperti pada daun muda, ranting, dan perbungaan. Penelitian ini bertujuan untuk: 1) mengetahui spesies *Colletotrichum* spp. penyebab mati pucuk pada mangga berdasarkan identifikasi molekuler secara multigen (ITS, Actin, GAPDH, dan  $\beta$ -tubulin); 2) mengetahui karakter morfologi *Colletotrichum* spp. penyebab mati pucuk pada mangga; 3) menguji virulensi *Colletotrichum* spp. penyebab mati pucuk pada mangga. Hasil eksplorasi didapatkan 72 sampel ranting mangga bergejala mati pucuk dan berhasil diisolasi 11 isolat *Colletotrichum* spp. karakterisasi molekuler dengan rep-PCR menunjukkan 133 pita DNA polimorfisme kombinasi primer BOX dan ERIC. Enam isolat representatif terpilih dari hasil dendrogram UPGMA rep-PCR berdasarkan koefisien kemiripan 70% dilanjutkan identifikasi molekuler. Hasil identifikasi molekuler menunjukkan bahwa isolat MLG-TJB identik dengan *C. cairnsense* yang termasuk dalam spesies kompleks *C. acutatum*, dan isolat HM-IJB, HM-BDIY, MLG-PAJT, MLG-TJT, dan HM-PAJT identik dengan *C. asianum* yang termasuk dalam spesies kompleks *C. gleosporioides*. Semua isolat menunjukkan adanya variasi karakter morfologi. Hasil uji virulensi menunjukkan semua isolat patogenik terhadap bibit mangga kultivar Arumanis, dengan isolat MLG-TJT dan HM-PAJT memiliki tingkat virulensi paling tinggi.

**Kata kunci:** mati pucuk, mangga, *C. asianum*, *C. cairnsense*.

## ABSTRACT

Mango (*Mangifera indica* L.) is one of the most important horticultural commodities in Indonesia. Java alone contributes to 69.18% of the national mango production. However, the mango industry in the country faces various challenges that result in fluctuations in production. One of the significant challenges is the impact of plant-disturbing organisms, particularly the *Colletotrichum* genus. This leads to yield losses of up to 100%. The impact of *Colletotrichum* spp. infection is significant in the postharvest phase, but the pre-harvest phase in the field cannot be separated. It's during this phase that the initial infection of *Colletotrichum* spp. occurs on young leaves, twigs, and inflorescences. This study aims to achieve the following objectives: 1) determine the species of *Colletotrichum* spp. causing dieback in mangoes based on multigenes (ITS, Actin, GAPDH, and  $\beta$ -tubulin); 2) determines the morphological character of *Colletotrichum* spp. causing dieback in mangoes; 3) test the virulence of *Colletotrichum* spp. causing dieback in mangoes. The exploration results obtained 72 samples of mango twigs with dieback symptoms and successfully isolated 11 isolates of *Colletotrichum* spp. Molecular characterization by rep-PCR showed polymorphisms of 133 DNA band combinations of the BOX and ERIC primers. Six representative isolates were selected from the UPGMA rep-PCR dendrogram results based on a 70% similarity coefficient. These isolates were then subjected to molecular identification. The molecular identification results revealed that MLG-TJB isolates were identical to *C. cairnsense*, which belongs to the *C. acutatum* complex species. On the other hand, HM-IJB, HM-BDIY, MLG-PAJT, MLG-TJT, and HM-PAJT isolates were identical to *C. asianum*, which belongs to the *C. gleosporioides* complex species. All isolates showed variations in morphological characters. The virulence test results showed that all pathogenic isolates were capable of causing damage to Arumanis cultivar mango seedlings. Among the isolates, MLG-TJT and HM-PAJT was found to have the highest virulence level.

**Keywords:** *dieback*, mango, *C. asianum*, *C. cairnsense*.