

Title Resistance of apple varieties to *Diplodia* sp. And *Colletotrichum gloeosporioides* cause of fruit rot

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Abstract

Fruit rot is caused by many species of fungi, causing yield losses either at pre-harvest or post harvest of many apple varieties. Manalagi, Anna, and Rome Beauty are varieties that usually cultured in most apple areas in East Java. Fruit rot in those areas primarily caused by *Diplodia* sp. and *Colletotrichum gloeosporioides* fungi. Many varieties that will be planted by farmers were to replace non productive trees or to develop new apple plantation. The experiment was to know the resistance of 14 apple varieties which collected by Citrus & Subtropical Fruits Research Institute (ICSFRI) to *Diplodia* sp. and *Colletotrichum gloeosporioides*. The experiment was carried out in the Mikology laboratorimn Citrus & Subtropical Fruits Research Institute (ICSFRI) in Desember 2007. The fruit of apples varieties used were Canada Reinette (K-01), Ivette (K-06), Mc. Intosh (K-11), Valmore (K-20), Cahort I (K-22), Manalagi (K-23), Salam (K-24), Rome Beauty Amerika III (K-27), Rome Beauty Amerika IV (K-28), Princesse Noble I (K-29), Princesse Noble VIII (K-36), RRT (K-37), Anna (K-45) and Kalat Special (K-57). Fresh apple fruit was inoculated by both of those pathogens separately, each treatments has 3 replications. Observation was done to growth of diameter deterioration of fruit every 2 days. Besides those treatments, an analysis healthy and fresh apple fruit was done to find out the sucrose level/total acid and water level of fruit. The results showed that apple varieties which resistant to fruit rot caused by *Diplodia* sp. were K01, K-11, K-20, K-23, K-24, K-27 and K-28, moderate resistance varieties were K-06, K-22, K-29, K-36, K-37 and K-57, and susceptible resistance variety was K-45. While the apple varieties that resistant to fruit rot caused by *Colletotrichum gloeosporioides* were K-22, K-11, K-57, moderate resistance varieties were K-06, K20, K-24, K-27, K-28, K-29, K-36 and K-37, and susceptible resistance variety were K-01, K-23 and K-45. Fruit analysis showed that no correlation between fruit rot with sucrose level/total acid and water level of fruit.