

**EVALUASI PERFORMA KESEHATAN PERTANAMAN UJI
KETURUNAN PANGGAL BUAYA (*Zanthoxylum rhetsa* (Roxb.) DC.)
UMUR 9 TAHUN DI PETAK 17, KHDTK WANAGAMA, GUNUNGKIDUL**

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INTISARI

Evaluasi performa kesehatan pertanaman uji keturunan panggal buaya (*Zanthoxylum rhetsa* (Roxb.) DC.) umur 9 tahun dilakukan di petak 17, KHDTK Wanagama, Gunungkidul, Yogyakarta. Tujuan penelitian meliputi: 1. Mengevaluasi performa kesehatan pertanaman uji keturunan panggal buaya, 2. Mengevaluasi famili yang memiliki pertumbuhan diameter dan performa tajuk yang baik meskipun juga memiliki intensitas kerusakan jamur upas yang tinggi, 3. Mengevaluasi hubungan kedalaman solum tanah terhadap pertumbuhan (diameter dan tinggi) tanaman dan performa tajuk tanaman. Penelitian menggunakan metode sensus pada 9 blok dari 15 blok. Kedalaman solum tanah diukur dari permukaan tanah hingga bahan induk. Kerusakan yang diamati meliputi keberadaan rayap, luka terbuka, dan jamur upas pada bagian akar, batang, dan batang dalam tajuk. Adapun performa tajuk dinilai berdasarkan proporsi daun dan warna daun pada tajuk. Diameter dan tinggi; kerusakan rayap, luka terbuka, dan jamur upas; performa tajuk, dan kedalaman solum dianalisis GLM (*General Linear Model*). Hubungan kedalaman solum, diameter, tinggi, dan performa tajuk dianalisis korelasi serta pengelompokan famili memiliki pertumbuhan diameter dan performa tajuk yang baik meskipun juga memiliki intensitas kerusakan jamur upas tinggi dianalisis PCA (*Principal Component Analysis*).

Hasil penelitian menunjukkan bahwa luas kerusakan akibat faktor biotik (64,8 – 96,0%) dan kerusakan akibat faktor abiotik termasuk antropogenik (19,3 – 54,5%). Famili bernomor 2, 17, 18, 20, 28, 32, 57, 58, dan 59 merupakan famili yang memiliki pertumbuhan diameter dan performa tajuk yang baik tetapi juga memiliki intensitas kerusakan jamur upas yang tinggi. Pertanaman uji keturunan panggal buaya memiliki solum tanah yang dikategorikan dalam. Meskipun demikian, kedalaman solum tanah memiliki hubungan negatif terhadap diameter ($r = -0,558$) dan tinggi ($r = -0,215$) serta memiliki hubungan yang positif terhadap performa tajuk ($r = 0,365$) tanaman panggal buaya.

Kata kunci: panggal buaya, evaluasi, kesehatan tanaman, uji keturunan, solum tanah

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HEALTH PERFORMANCE EVALUATION ON 9 YEARS OLD OF INDIAN PRICKLY ASH (*Zanthoxylum rhetsa* (Roxb.) DC.) PROGENY TRIAL AT SITE 17, KHDTK WANAGAMA, GUNUNGKIDUL

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ABSTRACT

Health performance evaluation in a 9 years old progeny test of indian prickly ash (*Zanthoxylum rhetsa* (Roxb.) DC.) was conducted Wanagama, Gunungkidul, Yogyakarta. The study aims to: 1. Evaluate the health performance of the indian prickly ash progeny trial, 2. Evaluate the families having good diameter growth, and canopy performance in spite of high intensity of pink disease, and 3. Evaluate the relationship between solum depth, plant growth and canopy performance. The study was carried out using the census method on 9 blocks of 15 blocks of the test. The depth of the solum was measured from the soil surface to the parent material. The damage that was observed included the presence of termites, open wounds, and pink fungus on the roots, stems, and crown stems. The canopy performance was assessed based on the proportion of leaves and leaf color at the canopy. The mean of diameter and height, the damage of termites, open wound, and pink fungus, canopy performance and solum depth were calculated using GLM (General Linear Model) method. The correlation between solum depth, diameter, height, and canopy performance were analyzed using correlation analysis; meanwhile the family groupings having good diameter growth, canopy performance was analyzed using PCA (Principal Component Analysis).

Results showed that there was an increase in damage severity affected by biotic (64,8 – 96,0%), and abiotic including anthropogenic (19,3 – 54,5%). The following families: 2, 17, 18, 20, 28, 32, 57, 58, and 59 were adaptive to the existing site conditions and had good diameter growth and canopy performance, despite they had a high intensity of pink fungal damage. Soil solum of the site of progeny trial was deep. However, soil solum was negatively correlated diameter ($r = -0,558$) and height ($r = -0,215$), but positively correlated with canopy performance ($r = 0,365$).

Keyword: indian prickly ash, evaluation, plants health, progeny test, soil solum

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