

DETEKSI BAKTERI PATOGEN TERBAWA BENIH AKOR (*Acacia auriculiformis* A. Cunn. Ex Benth.)

INTISARI

Akor (*Acacia auriculiformis*) merupakan tanaman hutan yang cepat tumbuh yang mempunyai banyak manfaat. Penelitian patogen terbawa benih sudah banyak dilakukan untuk mangium dan krasikarpa yang banyak dikembangkan di HTI, namun untuk pengembangan tanaman akor di Indonesia baru dimulai tahun 1990-an sehingga belum banyak informasi mengenai penyakit pada akor di Indonesia khususnya penyakit terbawa benih. Tujuan penelitian ini adalah untuk mengetahui bakteri patogen terbawa benih akor dan pengaruhnya terhadap perkecambahan benih dan pertumbuhan bibit. Isolasi bakteri dengan perendaman benih, penggerusan benih, inkubasi benih, *growing on test* pada kertas dan pada tanah steril. Identifikasi bakteri dengan PCR menggunakan primer 63 F/1378R. Hasil identifikasi menunjukkan bahwa bakteri terbawa benih akor antara lain *Paenochrobactrum* sp., *Ralstonia* sp., *Burkholderia cepacia* complex, *Pseudomonas stutzeri*, *Acinetobacter* sp., *Alcaligenes faecalis*, *Salmonella bongori*, *Escherichia hermannii* sedangkan patogen penyebab hawar filodi bibit akor adalah *Micrococcus luteus* dan *Burkholderia cepacia* complex. Hampir semua bakteri yang diuji dapat meningkatkan persentase benih berlendir, mengurangi daya berkecambah, tinggi bibit, diameter bibit, panjang filodi, lebar filodi, bobot basah, biomassa dan indeks mutu bibit. Umumnya bakteri tersebut dapat menurunkan daya berkecambah di media kertas mencapai 17 % dan di media tanah mencapai 18,5 % walaupun tidak berbeda nyata dengan kontrol. *Acinetobacter* sp. dapat menurunkan daya berkecambah namun tidak mempengaruhi pertumbuhan bibit. Isolat *S. bongori* menurunkan daya berkecambah paling tinggi sedangkan *E. hermannii* menghambat pertumbuhan bibit. Hasil pengamatan menunjukkan bahwa bakteri enterik (*S. bongori*, *E. hermannii*) menurunkan viabilitas dan vigor bibit lebih besar dibanding isolat lain. Gejala yang dihasilkan di perkecambahan dan di persemaian dapat berupa kotiledon gugur, nekrosis akar, nekrosis batang, nekrosis tunas, daun/filodi klorosis, daun/filodi menguning dan hawar filodi.

Kata kunci : *Acacia auriculiformis*, bakteri, benih, *Escherichia hermannii*, patogen, *Salmonella bongori*

DETECTION OF BACTERIAL SEED BORNE PATHOGEN OF NORTHERN BLACK WATTLE (*Acacia auriculiformis* A. Cunn. Ex Benth.)

ABSTRACT

Akor (*Acacia auriculiformis*) is a fast growing species that has multipurpose benefits. Intensive research of seed-borne pathogen of *A. mangium* and *A. crassicarpa* which have been established in industrial plantation forest (HTI) was undertaken in Indonesia, while plantings development of northern black wattle have recently been established began in Indonesia in the 1990s. So little information are available on black wattle diseases especially seed-borne diseases. The objective of this study were to identify seed-borne pathogenic bacteria of black wattle and the effects on seed germination and seedling growth. Method for the isolation of bacteria by seed soaking, seed griding, blotter test, growing-on test on paper and soil. Identification of bacteria by PCR using 63F/1387R primer. The result showed that seed-borne bacteria of black wattle were *Paenochrobactrum* sp., *Ralstonia* sp., *Burkholderia cepacia* complex, *Pseudomonas stutzeri*, *Acinetobacter* sp., *Alcaligenes faecalis*, *Salmonella bongori*, *Escherichia hermannii* while pathogenic bacteria caused seedling blight were *Micrococcus luteus* and *Burkholderia cepacia* complex. The results showed that almost all bacteria in this study reduced seed germination and seedling growth parameters i.e. (height, diameter, length of phyllodi, width of phyllody, fresh weight, biomass, index). In general, such bacteria reduced seed germination on filter paper by 17 % while in soil by 18,5 % although there were no significant differences with control. Seed treatment with *Acinetobacter* sp. reduced seed germination but did not affect seedling growth. *S. bongori* reduced seed germination higher than others bacteria, while *E. hermannii*. reduced various seedling growth parameters higher than others bacteria. It is suggested that enteric bacteria (*S. bongori*, *E. hermannii*) affect seed viability and seedling vigor larger than others bacteria in this study. Seed inoculated reduced seed germination as well as caused sprout and seedling diseases. The symptoms are fallen cotyledons, root necrotic, shoot necrotic, die back, inhibition of root growth, yellowing leaf/phyllody, chlorosis leaf/phyllody and phyllody blight.

Key words : *Acacia auriculiformis*, bacteria, *Escherichia hermannii*, pathogen, *Salmonella bongori*, seed