



EVALUASI PENYAKIT ABIOTIK SEMAI YANG DITUMBUHKAN PADA KOMPOS LIMBAH KAYU PUTIH

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Intisari

Penelitian ini bertujuan untuk mengevaluasi pengaruh komposisi media terhadap penampilan tumbuh bibit *Parasericmthes falcataria* (sengon) dan *Gmelina arborea* (gmelina) dan mengevaluasi pengaruh perbaikan sifat fisik berupa penambahan pasir dalam media bahan organik terhadap pertumbuhan semai dan gejala abiotiknya.

Penelitian dilaksanakan dari tanggal 12 Maret 1996 sampai 30 Juni 1996, menggunakan Rancangan Acak Lengkap dengan 2 species uji yang dianalisa secara terpisah, yang masing-masing perlakuannya disusun secara faktorial dengan kombinasi 2 faktor, yaitu faktor medium dengan 4 kombinasi perlakuan dan faktor penambahan pasir dengan 2 kombinasi perlakuan. Parameter yang diamati antara lain gejala penyakit abiotik, prosen hidup, tinggi, diameter, panjang akar, kekokohan, berat kering total, nisbah pucuk-akar, kandungan air relatif dan indeks kualitas semai.

Hasil penelitian menunjukkan bahwa gejala abiotik yang terjadi pada semai ialah khlorosis, kerdil, dan ukuran daun yang menyimpang (kecil-kecil). Gejala tersebut terjadi pada medium limbah kayu putih yang belum mengalami proses cukup dekomposisi yang ditandai oleh C/N ratio yang masih tinggi. Perbaikan kualitas medium dengan mencampur sekam, tanah dan pupuk kandang belum seluruhnya dapat mengatasi gejala abiotik. Ketiga macam penyakit abiotik tersebut terdapat pada semai yang ditumbuhkan di media kompos alam (M3), dan media pasir/kontrol, dengan pertumbuhan yang relatif lambat. Usaha untuk memperbaiki sifat medium tersebut berpengaruh positif, karena selain meningkatkan pertumbuhan, juga mengurangi gejala penyakit abiotik. Pada semai gmelina, media M1 (kayu putih: 8; tanah: 3; pupuk kandang: 3) mempunyai pertumbuhan terbaik pada parameter tinggi, diameter, berat kering dan indeks kualitas semai, dengan nilai masing-masing 41.23 cm, 4.59 mm, 3.585 g dan 0.331, dengan kenampakan gejala abiotik berupa khlorosis dan kerdil. Media M2 (kayu putih: 9; sekam: 1; pupuk kandang: 4) pertumbuhan terbaik pada panjang akar dan kandungan air relatif, dengan nilai masing-masing 27.950 cm dan 342.601%, gejala penyakit abiotik spesifik berupa khlorosis saja. Pada semai sengon, gejala abiotik spesifik berupa khlorosis masih terdapat pada semua medium uji. Media M2 mempunyai pertumbuhan yang terbaik untuk parameter nisbah pucuk-akar (5.666) dan media M4 dengan pertumbuhan terbaik pada indeks kualitas semai (0.427). Perbaikan sifat fisik berupa penambahan pasir dapat meningkatkan pertumbuhan dan menurunkan gejala abiotik semai.





THE EVALUATION OF SEEDLING ABIOTIC DISEASE WHICH IS GROWN IN CAYUPUT WASTE COMPOST

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ABSTRACT

The objective of the research are to evaluate the influence of media composition to the growth performace of *Parasericmthes falcataria* and *Gmelina cirborea* seedlings and to evaluate the influence of phsical characteristic improvement in the form of sand increase in organic stuff media to the growth of seedling and its abiotic symptom.

The research was done from March 12,1996 to June 30, 1996, using completely randomize design (CRD) with 2 test plant species which were analyzed separately. Each treatment of the test plant species was organized factorially with the combination of 2 factors, namely medium factor that included 4 treatment combinations and sand increase factor that included 2 treatment combinations. The parameters observed were the abiotic symptom disease, height, diameter, length of the root, strength, total dryness weight, top root ratio, relativity of water content and seedling quality index.

The result of the research showed that the abiotic symptoms which were happened to seedlings were chlorosis, stunted, and the divergence of leaf measure (small). The symptoms were observed in the medium of old cayuput waste which did not experience decomposition process enough that was signed by high ratio C/N. The action to increase quality medium was done with mixing hulls, soil and manure still can't stop abiotic symptom. Three kinds of abiotic symptom were observed on seedling which grow up in nature compost medium and also in sand medium, with slow growth. The action to increase quality medium has positif influenced, because could grow more fast and also could decrease abiotic symptom. In *G. arborea* seedling, M1 media (cayuput :8; soils:3; menure: 3) had the best growth in the parameter of height, diameter, dryness weight and the seed quality index, with the value each other 41.23 cm, 4.59 mm, 3.585 g and 0.331, with abiotic symptom like chlorosis and stunted. M2 media (cayuput: 9; hulls :1; manure :4) had the highest growth in the length of root and the relaivity of water content with the value each other 27.95 cm and 342.601 %, specific abiotik symptom like chlorosis. In *P. falcataria* seedling, the specific abiotik symptom like chlorosis still existed in all test medium. M2 media had the best growth in the parameter of the top root ratio (5.666) and M4 media in the seed quality index (0.427). The physical characteristic improvement that was in form of sand addition could increase the growth and also decreased the seedling abiotic symptom.

