

## RINGKASAN

Anggrek merupakan tanaman hias yang cukup diminati oleh masyarakat. Spesies anggrek yang paling banyak diminati adalah anggrek *Dendrobium*. Anggrek *Dendrobium* banyak dibudidayakan karena memiliki sifat yang toleran terhadap panas dan memiliki persentase hidup yang cukup tinggi. Namun, dalam proses perbanyakannya masih mengalami kendala khususnya pada perbanyakan secara *in vitro*. Salah satunya pada tahap aklimatisasi dan pasca aklimatisasi. Upaya pengoptimalan keberhasilan hidup bibit anggrek dapat dilakukan dengan optimalisasi pemupukan dan perawatan. Penelitian bertujuan untuk mendapat konsentrasi pupuk daun, frekuensi penyemprotan pupuk daun dan interaksi yang memiliki pengaruh terbaik terhadap pertumbuhan bibit anggrek.

Penelitian ini dilaksanakan di *screen house* yang berlokasi di desa Banjarsari Kulon, Kecamatan Sumbang, Kabupaten Banyumas Laboratorium Agronomi & Hortikultura, dan Laboratorium Perlindungan Tanaman Fakultas Pertanian, Universitas Jenderal Soedirman. Penelitian ini berlangsung selama kurang lebih 17 minggu terhitung sejak bulan November 2023 hingga Maret 2024. Rancangan yang digunakan adalah Rancangan Acak Kelompok (RAK) dengan dua faktor, tiga ulangan dan terbagi dalam tiga blok. Faktor pertama yaitu Konsentrasi pupuk daun 1 g/L, 2 g/L, dan 3 g/L. Faktor kedua yaitu Frekuensi penyemprotan pupuk daun 3 hari sekali, 6 hari sekali, dan 9 hari sekali. Data hasil penelitian dianalisis menggunakan software DSAATAT versi 1.514 dengan taraf kepercayaan 95%, kemudian apabila hasil analisis menunjukkan perbedaan yang nyata maka dilakukan uji lanjut DMRT dengan kesalahan 5%.

Hasil penelitian menunjukkan aplikasi pupuk daun 1 g/L mampu meningkatkan jumlah daun sebesar 1,00 helai dan memperoleh kerapatan stomata tertinggi sebesar 72,96/mm<sup>2</sup>. Akan tetapi, aplikasi pupuk daun belum mampu meningkatkan pertambahan tinggi tanaman, diameter batang, kehijauan daun, jumlah tunas baru, luas daun, bobot segar, bobot kering dan bukaan stomata pada bibit anggrek. Perlakuan frekuensi penyemprotan pupuk daun 3 hari sekali memperoleh luas daun tertinggi yaitu 3,13 cm<sup>2</sup>, bobot segar 0,87 g dan pertambahan diameter batang sebesar 1,04 mm. Hasil penelitian menunjukkan bahwa belum diperoleh kombinasi terbaik dari konsentrasi dan frekuensi penyemprotan pupuk daun.

## SUMMARY

*Orchids are ornamental plants that are quite popular by the public. The most popular orchid species is the Dendrobium. Dendrobium are widely cultivated because they are heat tolerant and have a fairly high survival rate. However, there are still any constraint in the propagation process, especially in in vitro propagation. One of them is at the acclimatization and post-acclimatization stages. Efforts to optimize the success of orchid seedlings can be done by optimizing fertilization and maintenance. The research aims to obtain the concentration of foliar fertilizer, frequency of spraying foliar fertilizer and interactions that have the best impact on the growth of orchid seedlings.*

*This research was conducted in a screen house located in Banjarsari Kulon Village, Sumbang District, Banyumas Regency, Agronomy & Horticulture Laboratory, and Plant Protection Laboratory, Faculty of Agriculture, Jenderal Soedirman University. This research lasted for approximately 17 weeks from November 2023 to March 2024. The design used was a Randomized Block Design (RDB) with two factors, three replications and divided into three blocks. The first factor is the concentration of foliar fertilizer there are 1 g / L, 2 g / L, and 3 g / L. The second factor is the frequency of spraying foliar fertilizer once every 3 days, once every 6 days, and once every 9 days. The research data were analyzed using DSAATAT software version 1.514 with a confidence level of 95%, then if the analysis results showed a significant difference, a further DMRT test was carried out with an error of 5%.*

*The results showed that the application of 1 g/L foliar fertilizer was able to increase the number of leaves by 1.00 strands and obtained the highest stomata density of 72.96/mm<sup>2</sup>. However, the application of foliar fertilizer was not able to increase the increase in plant height, stem diameter, leaf greenness, number of new shoots, leaf area, fresh weight, dry weight and stomata openings in orchid seedlings. The treatment of foliar fertilizer spraying frequency once every 3 days obtained the highest leaf area of 3.13 cm<sup>2</sup>, fresh weight of 0.87 g and an increase in stem diameter of 1.04 mm. The results showed that the best combination of concentration and frequency of foliar fertilizer spraying had not been obtained.*