

## RINGKASAN

Kantong semar atau *Nepenthes* sp. adalah tumbuhan karnivora yang memiliki kantong pada ujung daunnya. Dinding kantong memiliki tekstur licin yang dapat menjebak serangga sehingga jatuh ke dalam kantong. *Nepenthes mirabilis* (Lour.) Druce memiliki batang bulat berwarna hijau muda sampai coklat tua dengan panjang dapat mencapai 10 m. Daun *N. mirabilis* berbentuk lanset, tipis dengan tulang daun yang tidak terlalu besar serta memiliki rambut halus. Status konservasi *N. mirabilis* menurut IUCN *Red List* termasuk kategori *Least Concern* namun berada dalam Appendix II CITES. Perbanyakkan *Nepenthes* secara konvensional melalui biji dan stek batang dihadapkan pada sulitnya memperoleh biji, lamanya proses perkecambahan biji, dan terbatasnya jumlah anakan yang dihasilkan. Oleh karena itu, perbanyakkan dengan teknik kultur *in vitro* dilakukan untuk menghasilkan bibit dalam jumlah yang banyak dan dalam waktu yang lebih singkat. Penelitian ini dilakukan dengan tujuan untuk mengetahui pengaruh formulasi media dan konsentrasi Nutrijell pada pertumbuhan tunas mikro *Nepenthes mirabilis* (Lour.) Druce dalam kultur *in vitro*, dan menentukan formulasi media dan konsentrasi Nutrijell terbaik untuk pertumbuhan tunas mikro *N. mirabilis* dalam kultur *in vitro*.

Penelitian ini dilaksanakan secara eksperimental dengan Rancangan Acak Lengkap (RAL) pola perlakuan faktorial dua faktor. Faktor pertama adalah formulasi media yang terdiri atas media Murashige dan Skoog (MS) *Full-Strength* (MSFS), MS *Half-Strength* (MSHS), MS *Half-Strength* (MSHS) + AB-Mix, dan AB-Mix. Faktor kedua adalah konsentrasi Nutrijell yang terdiri atas 10 g.L<sup>-1</sup>, 12 g.L<sup>-1</sup>, dan 14 g.L<sup>-1</sup>. Setiap kombinasi perlakuan diulang 5 kali, sehingga diperoleh 60-unit percobaan. Variabel bebas yang dicobakan adalah formulasi media dan konsentrasi Nutrijell. Variabel terikat yang diamati yaitu pertumbuhan tunas mikro *N. mirabilis*, dengan parameter yang diukur meliputi waktu muncul tunas, jumlah tunas, panjang tunas, dan jumlah daun. Data yang diperoleh dianalisis dengan *analysis of variance* (ANOVA) pada tingkat kesalahan 5% dan 1%, dan dilanjutkan dengan uji jarak berganda Duncan dengan tingkat kesalahan 5%. Pertumbuhan tunas mikro *Nepenthes mirabilis* (Lour.) Druce dalam kultur *in vitro* tidak dipengaruhi oleh interaksi antara formulasi media dan konsentrasi Nutrijell yang digunakan. Formulasi media mempengaruhi tinggi dan laju pertumbuhan relatif tinggi tunas, jumlah dan laju pertumbuhan relatif jumlah tunas, sedangkan konsentrasi Nutrijell mempengaruhi waktu kemunculan tunas dan jumlah serta laju pertumbuhan relatif jumlah daun. Formulasi media MS *Half-Strength* + AB-Mix yang dipadatkan dengan 12 g.L<sup>-1</sup> Nutrijell merupakan kombinasi terbaik untuk pertumbuhan tunas mikro *N. mirabilis* dalam kultur *in vitro*.

Kata kunci: *AB-Mix*, *in vitro*, *MS*, *Nepenthes mirabilis* (Lour.) Druce, Tunas Mikro

## SUMMARY

*Nepenthes* sp. is a carnivorous plant that has pockets at the ends of its leaves. The bag walls have a slippery texture which can trap insects so they fall into the bag. *Nepenthes mirabilis* (Lour.) Druce has round, light green to dark brown stems that can reach 10 m in length. The leaves of *N. mirabilis* are lanceolate, thin with veins that are not too large and have fine hairs. The conservation status of *N. mirabilis* according to the IUCN Red List is in the Least Concern category but is in CITES Appendix II. Conventional propagation of *Nepenthes* through seeds and stem cuttings is faced with the difficulty of obtaining seeds, the length of the seed germination process, and the limited number of offspring produced. Therefore, propagation using in vitro culture techniques is carried out to produce seeds in large numbers and in a shorter time. This research was conducted with the aim of determining the effect of media formulation and Nutrijell concentration on the growth of *Nepenthes mirabilis* (Lour.) Druce microshoots in in vitro culture, and determining the best media formulation and Nutrijell concentration for the growth of *N. mirabilis* microshoots in in vitro culture.

This research was carried out experimentally with a Completely Randomized Design (CRD) with a two-factor factorial treatment pattern. The first factor is the media formulation consisting of *Murashige and Skoog* (MS) *Full-Strength* (MSFS), MS *Half-Strength* (MSHS), MS *Half-Strength* (MSHS) + AB-Mix, and AB-Mix media. The second factor is the Nutrijell concentration which consists of 10 g.L<sup>-1</sup>, 12 g.L<sup>-1</sup>, and 14 g.L<sup>-1</sup>. Each treatment combination was repeated 5 times, so that 60 experimental units were obtained. The independent variables tested were media formulation and Nutrijell concentration. The dependent variable observed was the growth of *N. mirabilis* micro shoots, with parameters measured including shoot emergence time, number of shoots, shoot length and number of leaves. The data obtained were analyzed using *analysis of variance* (ANOVA) at an error rate of 5% and 1%, and continued with Duncan's multiple range test with an error rate of 5%. The growth of *Nepenthes mirabilis* (Lour.) Druce micro shoots in in vitro culture was not influenced by the interaction between the media formulation and the Nutrijell concentration used. The media formulation influences the height and relative growth rate of the shoots, the number and relative growth rate of the number of shoots, while the Nutrijell concentration influences the time of shoot emergence and the number and relative growth rate of the number of leaves. MS *Half-Strength* +AB-Mix media formulation solidified with 12 g.L<sup>-1</sup> Nutrijell is the best combination for the growth of *N. mirabilis* microshoots in in vitro culture.

Keywords: AB-Mix, in vitro, MS, *Nepenthes mirabilis* (Lour.) Druce, Microshoot