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Efektivitas Kacang Merah (*Phaseolus vulgaris* L.) sebagai Pengganti Media SDA (*Saboraud Dextrose Agar*) terhadap Pertumbuhan Jamur *Aspergillus niger*

xv + 87 halaman, 7 gambar, 8 tabel, dan 19 lampiran

ABSTRAK

Aspergillus niger merupakan jamur penyebab *Aspergillosis paru*, ABPA dan IPA Umumnya dikultur pada media *Saboraud Dextrose Agar* namun, harga SDA cukup mahal dan ketersediaanya terbatas. Kacang merah (*Phaseolus vulgaris* L.) mengandung karbohidrat dan protein tinggi yang berpotensi mendukung pertumbuhan jamur, sehingga dapat dijadikan media alternatif. Penelitian ini bertujuan untuk mengetahui efektivitas kacang merah terhadap pertumbuhan *Aspergillus niger* dengan variasi konsentrasi 5%, 10%, 15%, 20%, dan 25%. Jenis penelitian ini yaitu eksperimental dengan media SDA sebagai kontrol. Media dibuat dari tepung kacang merah, diinokulasi menggunakan metode single dot, dan diinkubasi selama 5 hari pada suhu 37°C. Diameter koloni diukur setiap hari dan dianalisis menggunakan uji *One-way Anova*. Hasil menunjukkan rata-rata diameter koloni pada SDA sebesar 41,19 mm. Sedangkan pada media kacang merah: Konsentrasi 5% = 49,75 mm; konsentrasi 10% = 47,17 mm; konsentrasi 15% = 47,85 mm; konsentrasi 20% = 46,62 mm; konsentrasi 25% = 47,27 mm. Uji *One-way Anova* menunjukkan tidak terdapat perbedaan yang signifikan ($p = 0,998$) antara media. Kesimpulannya, media kacang merah konsentrasi 5-25% efektif sebagai alternatif SDA untuk pertumbuhan *Aspergillus niger*, dengan konsentrasi optimal 20%

Kata Kunci : *Aspergillus niger*, Kacang Merah, Media Alternatif, SDA.
Daftar Bacaan : 38 (2016 – 2024)

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**Effectiveness of Red Beans (*Phaselous vulgaris L.*) as a Substitute for SDA
Media (*Saboraud Dextrose Agar*) on the Growth of *Aspergillus niger* Fungus**

xv + 87 pages, 7 figures, 8 tables, and 19 attachments

ABSTRACT

Aspergillus niger is a fungus that causes pulmonary aspergillosis, ABPA and IPA. It is generally cultured on Saboraud Dextrose Agar media, however, the price of SDA is quite expensive and its availability is limited. Red beans (*Phaselous vulgaris L.*) contain high carbohydrates and proteins that have the potential to support fungal growth, so they can be used as an alternative media. This study aims to determine the effectiveness of red beans on the growth of *Aspergillus niger* with concentration variations of 5%, 10%, 15%, 20%, and 25%. This type of research is experimental with SDA media as a control. The media is made from red bean flour, inoculated using the single dot method, and incubated for 5 days at 37°C. The colony diameter is measured daily and analyzed using the One-way Anova test. The results showed an average colony diameter on SDA of 41.19 mm. While in red bean media: Concentration 5% = 49.75 mm; concentration 10% = 47.17 mm; concentration 15% = 47.85 mm; concentration 20% = 46.62 mm; concentration 25% = 47.27 mm. One-way Anova test showed no significant difference ($p = 0.998$) between the media. In conclusion, red bean media with a concentration of 5-25% is effective as an alternative to SDA for the growth of *Aspergillus niger*, with optimal concentration of 20%

Keywords : *Aspergillus niger*, Red Beans, Alternative Media, SDA.
Reading List : 38 (2016 – 2024)