

AKTIVITAS ANTIBAKTERI DAN KUALITAS BIOFILM FERMENTASI KOMBUCHA SALAK BALI (*Salacca edulis* Reinw) DAN DAUN PANDAN (*Pandanus amaryllifolius* Roxb) TERHADAP *Pseudomonas aeruginosa*.

Audy Syavanova

20/454734/BI/10429

Pembimbing : Prof. Dr. Endah Retnaningrum, S.Si., M.Eng.

INTISARI

Salak bali merupakan komoditas pulau Bali yang memiliki rasa asam dan sepat, sehingga kurang disukai konsumen. Nilai ekonomi salak bali dapat ditingkatkan dengan pembuatan olahan fermentasi kombucha yang memiliki rasa segar dan menyehatkan karena memiliki sifat antibakteri. Penambahan daun pandan pada kombucha salak bali diharapkan dapat meningkatkan kualitas kombucha. Diberikan perlakuan tiga variasi jumlah salak bali dan daun pandan yaitu variasi 1, 2, dan 3 dengan masing-masing jumlah salak 250 g, 300 g, dan 350 g dan jumlah daun pandan 50 g. Penelitian ini bertujuan untuk mengetahui sifat organoleptik, aktivitas fermentasi, aktivitas antibakteri, dan kualitas biofilm kombucha salak bali dan daun pandan dengan variasi yang telah ditentukan. Aktivitas fermentasi diamati berdasarkan perubahan persentase asam asetat, nilai pH, dan total gula. Persentase asam asetat diukur dengan metode titrasi dan total gula diukur dengan metode spektrofotometri. Aktivitas antibakteri diujikan terhadap bakteri patogen *Pseudomonas aeruginosa* dengan metode *disk diffusion*. Setelah fermentasi selama 14 hari didapatkan hasil bahwa sifat organoleptik paling baik dimiliki oleh variasi 2 karena memiliki rasa, aroma, warna, dan viskositas yang disukai oleh panelis. Variasi 3 memiliki aktivitas fermentasi paling baik dibandingkan variasi 1 dan 2 dengan kadar asam asetat, nilai pH, dan total gula masing masing sebesar 0,164%; 2,903; dan 22,227%. Aktivitas antibakteri kombucha salak bali dan daun pandan dengan variasi 2 dan 3 lebih baik dibandingkan variasi 1. Serta kualitas biofilm paling baik dimiliki oleh variasi 3 dengan berat 66,843 g.

Kata kunci: kombucha; salak bali; pandan; biofilm

ANTIBACTERIAL ACTIVITY AND BIOFILM QUALITY OF KOMBUCHA FERMENTATION OF SALAK BALI (*Salacca edulis* Reinw) AND PANDAN LEAVES (*Pandanus amaryllifolius* Roxb) AGAINST *Pseudomonas aeruginosa*

Audy Syavanova
20/454734/BI/10429

Supervisor : Prof. Dr. Endah Retnaningrum, S.Si., M.Eng.

ABSTRACT

*Salak bali is a commodity of the island of Bali that has a sour and astringent taste, making it less preferred by consumers. The economic value of salak bali can be increased by making kombucha fermentation preparations that have a fresh and healthy taste because they have antibacterial properties. The addition of pandan leaves to salak bali kombucha is expected to improve the quality of kombucha. Three variations of the amount of salak bali and pandan leaves were given, namely variations 1, 2, and 3 with each amount of salak 250 g, 300 g, and 350 g and 50 g pandan leaves. This study aims to determine the organoleptic properties, fermentation activity, antibacterial activity, and biofilm quality of kombucha of salak bali and pandan leaves with predetermined variations. Fermentation activity was observed based on changes in acetic acid percentage, pH value, and total sugar. Acetic acid percentage was measured by titration method and total sugar was measured by spectrophotometric method. Antibacterial activity was tested against pathogenic bacteria *Pseudomonas aeruginosa* by disk diffusion method. After fermentation for 14 days, it was found that the best organoleptic properties were owned by variation 2 because it had a taste, aroma, color, and viscosity that was liked by the panelists. Variation 3 has the best fermentation activity compared to variations 1 and 2 with acetic acid content, pH value, and total sugar of 0.164%; 2.903; and 22.227%, respectively. The antibacterial activity of kombucha salak bali and pandan leaves with variations 2 and 3 is better than variation 1. And the best biofilm quality is owned by variation 3 with a weight of 66.843g.*

Keywords: kombucha; salak bali; pandan; biofilm