# PENGARUH PENAMBAHAN OLEORESIN JAHE MERAH (*Zingiber Officinale* var. *rubrum)* TERHADAP KARAKTERISTIK DAN AKTIVITAS ANTIBAKTERI PASTA GIGI HERBAL GAMBIR

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Iqbal Muhammad Yazid, Novizar, Rini Bahar

## ABSTRAK

Kesehatan gigi dan mulut merupakan permasalahan serius yang memerlukan perhatian dari tenaga kesehatan maupun pemerintah. Kebiasaan buruk dalam menjaga kebersihan gigi dan mulut dapat menyebabkan timbulnya plak, gigi berlubang, peradangan gusi, penumpukan karang gigi, bau mulut, sariawan, hingga penyakit sistemik. Jahe merah diketahui memiliki kemampuan menghambat pertumbuhan bakteri Streptococcus mutans, dan zona hambat yang dihasilkan karena kandungan senyawa bioaktif di dalamnya. Oleh karena itu, penelitian ini dilakukan untuk mengembangkan inovasi pasta gigi herbal berbahan dasar gambir dengan penambahan oleoresin jahe merah serta menentukan formulasi terbaik. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan lima perlakuan konsentrasi oleoresin jahe merah (0%, 0,5%, 1%, 1,5%, dan 2%) dan tiga ulangan. Hasil penelitian menunjukkan bahwa penambahan oleoresin jahe merah berpengaruh nyata terhadap pH, tinggi busa, daya sebar, kekentalan, rasa, dan aktivitas antibakteri, tetapi tidak berpengaruh nyata terhadap warna dan aroma. Perlakuan terbaik diperoleh pada penambahan oleoresin 1% (perlakuan C) dengan pH 7,31, tinggi busa 15,33 mm, daya sebar 4,46 cm, sediaan homogen, serta diameter zona hambat 25,00 mm yang sebanding dengan produk komersial.

**Kata kunci:** aktivitas antibakteri, gambir, oral, jahe merah.

# THE EFFECT OF ADDITION OF RED GINGER OLEORESIN (*Zingiber Officinale var. rubrum) ON THE CHARACTERISTICS AND ANTIBACTERIAL ACTIVITY OF GAMBIR HERBAL TOOTHPASTE*

Iqbal Muhammad Yazid, Novizar, Rini Bahar



## ABSTRACT

Oral health is a serious public health issue that requires attention from both healthcare professionals and the government. Poor oral hygiene habits can lead to plaque formation, dental caries, gingivitis, tartar buildup, halitosis, canker sores, and even systemic diseases. Red ginger (*Zingiber officinale* var. *rubrum*) is known to inhibit the growth of *Streptococcus mutans*, with its inhibition zone closely related to its bioactive compound content. Therefore, this study aimed to develop an innovative herbal toothpaste formulated with gambier (*Uncaria gambir Roxb.*) and red ginger oleoresin, as well as to determine the best formulation. The research was conducted using a Completely Randomized Design (CRD) with five treatment levels of red ginger oleoresin (0%, 0.5%, 1%, 1.5%, and 2%) and three replications. The results showed that the addition of red ginger oleoresin significantly affected pH, foam height, spreadability, viscosity, taste, and antibacterial activity but did not significantly affect color and aroma. The best formulation was obtained with 1% red ginger oleoresin (treatment C), which had a pH of 7.31, foam height of 15.33 mm, spreadability of 4.46 cm, a homogeneous texture, and an inhibition zone diameter of 25.00 mm, which was comparable to commercial toothpaste.

**Keyword:** *antibacterial activity, gambier, oral, red ginger.*


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