

# Biodegradasi pewarna tekstil congo red oleh bakteri enterococcus faecalis berdasarkan perbedaan jumlah inokulum dan konsentrasi pewarna tekstil congo red = Biodegradation of textile dye congo red by enterococcus faecalis based on different concentration of inoculum and congo red

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## Abstrak

Penelitian biodegradasi pewarna tekstil Congo Red telah dilakukan menggunakan bakteri *Enterococcus faecalis*. Biodegradasi dilakukan pada medium Bushnell Haas yang ditambahkan 1.000 ppm (0,1%) Congo Red dengan konsentrasi inokulum  $18 \times 10^7$  (CFU/ml) sebanyak 1%, 5% dan 10%. Persentase biodegradasi diukur dengan Spektrofotometer UV-Vis (490 nm) menunjukkan bahwa persentase degradasi terbaik diperoleh pada inokulum 10% yang telah mendegradasi 98,10% Congo Red pada hari pertama. Penelitian selanjutnya 2.500 ppm (0,25%) dan 5.000 ppm (0,5%) Congo Red menunjukkan bahwa bakteri *Enterococcus faecalis* mampu mendegradasi 5.000 ppm (0,5%) Congo Red hingga 96,88% pada hari ke dua puluh satu.

.....Research on the biodegradation of textile dye Congo Red has been carried out using *Enterococcus faecalis* bacteria. Biodegradation was performed in a Bushnell Haas medium containing 1.000 ppm (0,1%) of Congo Red which was inoculated with 1% , 5 % and 10 % inoculum ( $18 \times 10^7$  CFU/ml). The percentage of biodegradation as measured by UV - Vis Spectrophotometer (490 nm ) showed that the highest degradation (98,10%) was obtained from 10% inoculum after one day incubation period. Further experiments using 2.500 ppm (0,25%) and 5.000 ppm (0,25%) Congo Red showed that the bacteria still had the ability to degrade 96,88% of 5.000 ppm (0,5%) Congo Red after twenty one day incubation period.