

# **Wpływ podłoża hodowlanego na wzrost *Mycobacterium bovis* BCG podszczep Moreau w hodowli stacjonarnej i wytrząsanej**

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In BCG vaccine production, optimizing the culture process and minimizing losses at each stage is essential to ensure a consistent product with live BCG bacilli that can trigger an immune response. Currently, *M. bovis* BCG is cultured using the pellicle growth method in stationary flasks, where growth occurs on the surface of the medium. This method is time-consuming (4-6 weeks) and leads to cell aggregation, making quality control difficult and causing even a 40-60% cell death rate. The whole technological process also requires significant space and skilled labor for manual steps.

This project aims to improve BCG vaccine production by using submerged culture methods, which can enhance growth in bioreactors. Our pilot experiments compared various culture media dedicated to *Mycobacterium* (e.g., Roisin, Middlebrook 7H9, Dubos, Sauton) and tested different conditions such as surfactant concentration and shaking speed. The best biomass yield was obtained from stationary cultures on the Sauton medium, while the highest growth in shaken cultures occurred with the modified Sauton medium. These findings promise better reproducibility and economic efficiency in vaccine production, with positive implications for tuberculosis control.

## References:

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