

## ABSTRACT

Dwi Riyanti Andini Ramadhita, 24020121140192, **Produksi Pigmen Isolat *Monascus* sp. (EK009) dalam Media PDB dengan Penambahan Variasi Konsentrasi Monosodium Glutamat (MSG) Sebagai Sumber Nitrogen.** Under the guidance of Endang Kusdiyantini and Dwi Retno Fatmawati.

Natural pigments are increasingly in demand as an alternative to synthetic dyes because they are non-toxic, environmentally friendly, and have pharmacological benefits. *Monascus* sp. is one of the microorganisms that produces natural pigments consisting of red, orange, and yellow. Pigment production from *Monascus* is influenced by various factors, one of which is the nitrogen source. This study aims to determine the effect of variations in the concentration of Monosodium Glutamate (MSG) as a nitrogen source on the pigment production of *Monascus* sp. isolates (EK009) in Potato Dextrose Broth (PDB) media. The study was conducted using a Completely Randomized Design (CRD) with four MSG concentration treatments (0 g/L, 1 g/L, 1.5 g/L, and 2 g/L) each repeated three times. Incubation was carried out for 14 days with a *shaker* at a speed of 120 rpm. The parameters observed included mycelial dry weight and intra and extracellular pigment production at wavelengths of 400 nm (yellow), 470 nm (orange), and 500 nm (red). The results showed that the addition of 1.5 g/L MSG resulted in the highest mycelial dry weight and the most optimal pigment production for the third color, both intra- and extracellular. Conversely, a concentration of 2 g/L MSG decreased pigment production due to possible nutrient adequacy. This study shows that MSG as a source of organic nitrogen has a significant effect on increasing *Monascus* sp. pigment production, with an optimal concentration of 1.5 g/L.

**Keywords :** *Monascus* sp., natural pigments, Monosodium Glutamate (MSG), PDB media, nitrogen