

## **INFLUENCE OF pH OF THE CULTURE MEDIUM ON PRODUCTION OF THE PIGMENT SCLEROTIORIN BY *Penicillium sclerotiorum***

Oliveira, L.A.<sup>1</sup>, Neves, M.R.P.<sup>2</sup>, Souza, J.V.B.<sup>3</sup>

<sup>1</sup> UEA - Universidade do Estado do Amazonas (Av. Carvalho Leal, nº 1777 - Cachoeirinha, Manaus - Amazonas – Brasil), <sup>2</sup> UFAM– Universidade Federal do Amazonas ( Rua Alexandre Amorim, Aparecida, Manaus – Amazonas – Brasil ), <sup>3</sup> INPA – Instituto Nacional de Pesquisas da Amazônia (Av. André Araújo, 2.936 - Petrópolis - Manaus - AM, Brasil)

### **Abstract:**

Fungi have been increasingly exploited by its special potential to produce substances of economic value, due to the interest of several industry segments for bioactive substances. Synthetic dyes have limited use because excess can cause some toxic health effects, such as mutagenicity, carcinogenic potential, hyperactivity in children, hives, stomach upset and vomit. Dyes of fungal origin are an alternative to synthetic dyes because they have lower toxicity and higher biodegradability. Among these compounds, sclerotiorin pigment produced by *Penicillium sclerotiorum* has interesting biological activities such as antimicrobial, antifungal, antioxidant and anti-inflammatory and is already being used in the food industry and in the inhibition of lipoxygenase. However, it is necessary to determine the optimum conditions for growing the fungus that may increase the final yield of the product and reduce production costs. In this context, the aim of this study was to evaluate the influence of pH of the culture medium on production of the pigment sclerotiorin by *Penicillium sclerotiorum*. For this research, 17 experiments were performed in triplicate by submerged fermentation in liquid medium Czapeck, using univariate analysis, which evaluated the effect of pH and time (days). It was observed in this study that there was increased growth when the fungus was grown at pH 7 compared with the other tested values of pH 5, 6 and 8. Higher production of the pigment was 30 days when compared with 20, 25, 30 and 35 days. Thus, it was observed in this study the importance of pH in submerged cultures of *Penicillium sclerotiorum*, it allows higher production of sclerotiorin pigment. And it was observed that the highest production obtained was from 20 days of fermentation during pigment synthesis.

**Keywords:** pigment, sclerotiorin, pH of culture medium

**Promotion Agency:** CNPq