

Koski, E. M. and S. C. Hedman. Optimal

length of exposure to light for conidiation.

room temperature. Various experiments in our laboratory have necessitated the large scale production of agar flasks each containing a uniform and maximum number of viable conidio. Since light exposure is a factor in the production of conidio, experiments were performed to determine whether or not increased exposure to light, beyond 24 hours at 24°C, would increase the production of viable conidia. Results have indicated that light exposure beyond 24 hours at 24°C does not lead to an increase in numbers of viable conidio and may, in fact, contribute to a loss of viability.

For these experiments 125 ml Erlenmeyer flasks were employed, each flask containing 15 ml of Vogel's minimal medium supplemented with 1.5% (w/v) agar and 1.5% (w/v) sucrose. A uniform inoculum of strain STA4 was placed in each of several such flasks, which were then incubated in the dark at 34°C for 64 hours. After this time, the flasks were exposed to light (100 watt incandescent light bulb with overage intensity of 278.2 foot-candles measured at the surface of the flasks) at 24°C. Determinations of the total numbers of viable conidio per flask were made at 0, 24, 48, 72, 96 and 168 hours of light exposure. For these determinations 20 ml of sterile water was added to each flask, the contents were suspended by swirling and the resulting suspension was poured through two layers of sterile cheese cloth. Appropriate dilutions of this filtered suspension were plated on sorbose minimal agar plates (minimal medium + 1.5% agar, 1.0% sorbose and 0.1% sucrose, all w/v). The plates were incubated at 34°C in the dark and the resulting colonies were counted after 48 and 72 hours.

The averaged results of duplicate experiments gave the following total number of viable conidio per flask ($\times 10^6$) per stated hours of exposure to light: 6.5 for 0 hours exposure, 9.6 for 24 hours, 8.1 for 48 hours, 5.6 for 72 hours and 4.8 for 168 hours. It was concluded that 24 hours of light exposure at 24°C is sufficient for maximum production of viable conidia under the conditions here employed. - - - Department of Biology, University of Minnesota, Duluth, Minnesota 55812.

Exposure to light is often employed in Neurospora studies as an inducement for conidiation. For example, one standard procedure for agar flask culturing is to incubate newly inoculated flasks at 34°C in the dark for 2-3 days, followed by exposure to light at