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Preservation of Neurospora conidio with silica gel.

We use 10 x 100 mm test tuber two thirds filled with silica gel, mesh 6-22, plugged with rolled butter muslin. Silica gel tuber are sterilized for 1-1/2 hours at 200° C. Strains to be preserved ore grown for 6 days on 1.5 ml agar sloper in 10 x 100 mm test tubes. Conidia are suspended in 1.5 ml of sterile water and then added to 1.5 ml of sterile skim milk solution. Suspensions are kept in a refrigerator for 2-1/2 hours to cool and to allow the conidia to settle to the bottom of the tuber. The upper half of the milk solution is then removed with a pasteur pipette and discorded. The conidia are resuspended in the remaining milk solution and pipetted evenly over the surface of precooled silica gel granules so as just to wet the crystals.

Following inoculation of the silica gel, the tubes are dried for four days in a dessicator over anhydrous calcium chloride under a light vacuum. Tubes ore then sealed with parafilm and stored in plastic bags together with some indicator silica gel at between 5 and 10° C.

Viability of silica gel preparations after 15 years storage:

Our oldest silica gel stocks were prepared in March 1964. In February 1979, 164 of these stocks, a mixture of auxotrophs mostly with amino acid requirements, were tested for viability by inoculating 1.5 ml agar slopes with about 5 grains of silica gel. Good growth of all but four of them war established within 48 hours. A second inoculation of three of the four failures proved successful. The fourth, strain, a methionine-3 mutant (36104) could not be revived even when silica gel war added to liquid medium.

Conidia from six day old cultures were tested for reversions to prototrophy on minimal medium. Two of the 163 cultures contained revertant conidia. Both of them (his-5 alleles K550 and K534) were subsequently recovered as auxotrophs from additional inoculates. - - - Deportment of Genetics, University of Aberdeen, Aberdeen AB9 2TN, Scotland.