Conidiating media for Neurospora

L. C. Frost

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Abstract
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To prepare a suspension, 2 ml of water is drawn up into the bulb, and the length of glass tubing from the tip into the bulb is dried somewhat by drawing air in slowly. The tip is then inserted into the culture tube and held over (but not in) the conidia, the suction being controlled and varied with the forefinger covering the hole near the top. With care, contamination by culture tube medium constituents can be avoided completely. The conidia should be drawn up the tubing and through the water in the base of the bulb. If the conidia come out above the water level, most will wind up in the waste water in the vacuum flask.

When all the conidia have been removed from the slant, the suspensor is disconnected from the vacuum tubing and the process of suspending these conidia is completed by drawing up additional water from a 20 x 150 mm tube. The suspension is blown out into this test tube and all of the conidia are removed from the device with repeated flushing. The suspensor is re-connected to the vacuum tubing and the entire device cleaned and sterilized between cultures by filling it up with boiling water and turning it up on end to drain the water out through the top. This process is repeated once or twice to rinse out all mycelial fragments and conidia and to inactivate any remaining. The device is then filled with the sterile cold water and emptied to cool it thoroughly before preparing the next suspension.

With this device a conidial suspension containing a total of $1-3 \times 10^8$ conidia can be prepared from a single 5-7-day-old culture grown on an agar slant in a 20 x 150 mm tube.

Figure 1. Device for rapidly preparing conidial suspensions.

*From Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.
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The following media, promoting conidiation, have been found effective for over 100 different wild, morphological or biochemical mutant strains of Neurospora spp. when large supplies of conidia were required experimentally or for the maintenance of frequently used stock cultures:

(1) **Bacto-peptone Medium.** 0.4% bacto-peptone (British Drug Houses) is added to Fries salt solution (Beadle and Tatum, 1945), biotin (4 per litre) 2% glucose and 2% agar. The pH of the medium is about 5 and no adjustment is made (but see McNelly this Newsletter for histidine mutants). Wild, morphological and amino-acid mutant strains conidiate abundantly, especially arginine and lysine strains and arginine, lysine double mutants. However, some purine, pyrimidine and vitamin mutants give poor results. This medium was devised by Frost, 1955 (Ph.D. Thesis, Cambridge University).

(2) **Malt, Peptone and Yeast Medium.** To the Fries salt solution and biotin as above are added: glycerol 15 ccs., glucose 2.5 grms., malt extract (British Pharmacopoeia) 2.5 ccs., bacto-peptone (BDH) 0.5 grms., yeast extract (Difco) 2.5 grms., agar 20 grms. and distilled water to 1 litre. No adjustment of pH is made. This medium has given good results with wild and all classes of mutant strains tested, with very few exceptions.

The salt solution, Medium 'N' of Vogel, gives poor results with either of the above media.