

# Storage of Aconidial Strains of *Neurospora crassa* by Freezing at -80C.

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## **Abstract**

Aconidial strains of *N. crassa* can be difficult to store for extended periods of time.

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## Brief Notes

### Storage of Aconidial Strains of *Neurospora crassa* by Freezing at -80C.

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Aconidial strains of *N. crassa* can be difficult to store for extended periods of time. Methods involving heterokaryons formed with helper strains (Perkins 1986 FGN **33**:35-41), amassing mycelial inocula for freezing (P. Margolis, pers. comm. 1997), continual passage, or mycelial storage on silica gel (Wilson 1986 FGN **33**:47-48) have been used previously. For other fungi, freezing larger quantities of mycelia as agar plugs had been used as a convenient storage technique. Storage of aconidial strains of *Neurospora crassa* by freezing of mycelia as agar plugs and slants at -80C and -20C, similar to the preservation of slime strains (Selitrennikoff 1978 *Neurospora* Newsl. **25**:16, Jong and Davis 1979 *Neurospora* Newsl. **26**:26) was investigated.

Fluffy A (FGSC 4960), Fluffy a (FGSC 4961), and Acon-3 (FGSC 5074) were grown on plates of Vogel's Minimal Medium with 2% sucrose for 3 days at room temperature to a confluent mycelial lawn. Approximately 1 cm square plugs were cut from the agar and placed into sterile 1.5 ml Eppendorf tubes. The tubes were placed in a -80C freezer with no flash freezing and no glycerol or DMSO added. Agar plugs were retrieved from -80C after 7 days to 9 months and plated onto the same medium as above. They grew to form a confluent lawn in 3 days. Fluffy A and Fluffy a functioned normally in mating type tests after storage at -80C. Whole agar slants with mycelia from the aconidial strains were frozen at -80C. Pieces chipped from the frozen agar grew well on plates following storage of 1 month. Recovery from agar plugs and slants stored for 1 month (the only time tested) at -20C was slower than from those stored at -80C, with 3-7 days required for a confluent lawn of mycelia to grow. The recovery of aconidial strains after freezing under these conditions may be due to the larger amount of mycelia stored initially. Sufficient mycelia are present in the 1 cm plugs to allow recovery of the strains, providing a convenient alternative storage technique for aconidial strains.

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