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A rapid extraction method for mycelial organelles

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Abstract

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Wilson, J.F. and W.K. Bates. A rapid
extraction method for mycelial organelles.

We have found that efficient extraction of mycelium, with high yield of intact organelles can be accomplished in less than one minute per sample by using glass powder in a ground glass homogenizer of the correct clearance. The clearance of a Dual Tissue Grinder (Kontes Co.) must be enlarged by grinding with silicon carbide abrasive powder until a 28 B&S wire (0.013 inches) can be inserted be-

tween the pestle and the wall. To a modified 15 ml Dual Tissue Grinder, 1.0 gram (wet weight) of mycelium and 0.5 gram glass powder are added and washed to the bottom of the tube with 5 ml extraction buffer. The grinding pestle is rotated by a low torque motor and constantly raised and lowered during approximately 30 seconds of grinding. Amounts may be scaled up or down by a factor of two with this grinder, and much wider ranges of amounts can be accommodated by using smaller or larger grinders.

This method yields soluble protein concentrations slightly higher than those produced by a more vigorous method previously described (1967, *Neurospora News!* 12:16). However, the present method yields only 50-75% of the total protein per unit of mycelium obtained by the more vigorous method. ■ ■ ■ Department of Biology, University of North Carolina, Greensboro, North Carolina 27412.