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Viability of microconidia

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Abstract

Viability of microconidia

Garnjobst (1949 *Genetics* 34: 351). These workers reported that microconidia from strains of a peach, fluffy (pe,fl) genotype are predominantly but not exclusively uninucleate. A major limitation to the widespread use of microconidial strains has been the relatively low viability of microconidia, but no quantitative data on viability, or factors influencing viability, are available. Figure 1 summarizes viability data of microconidia from a pe,fl strain (Y8743m,L) (FGSC#568) grown on glycerol complete medium (medium 2 of Tatum, Barratt, Fries and Bonner 1950 *Am. J. Bot.* 37: 38) and sampled after various times of incubation at 25° C.

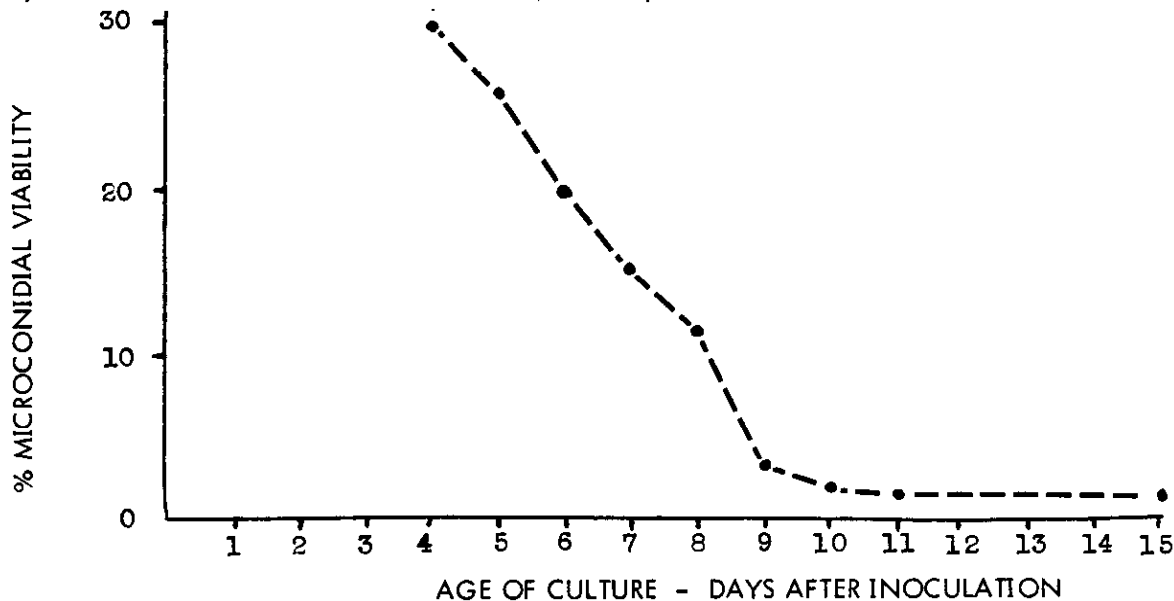


Figure 1. Viability of microconidia obtained from an agar slant. Viability determined by plating a counted, filtered microconidial suspension onto the surface of Fries minimal agar containing 0.1% sucrose, 1.0% sorbose, 0.1% malt extract, incubating for 60 hrs. at 30 C, and counting the resulting colonies.

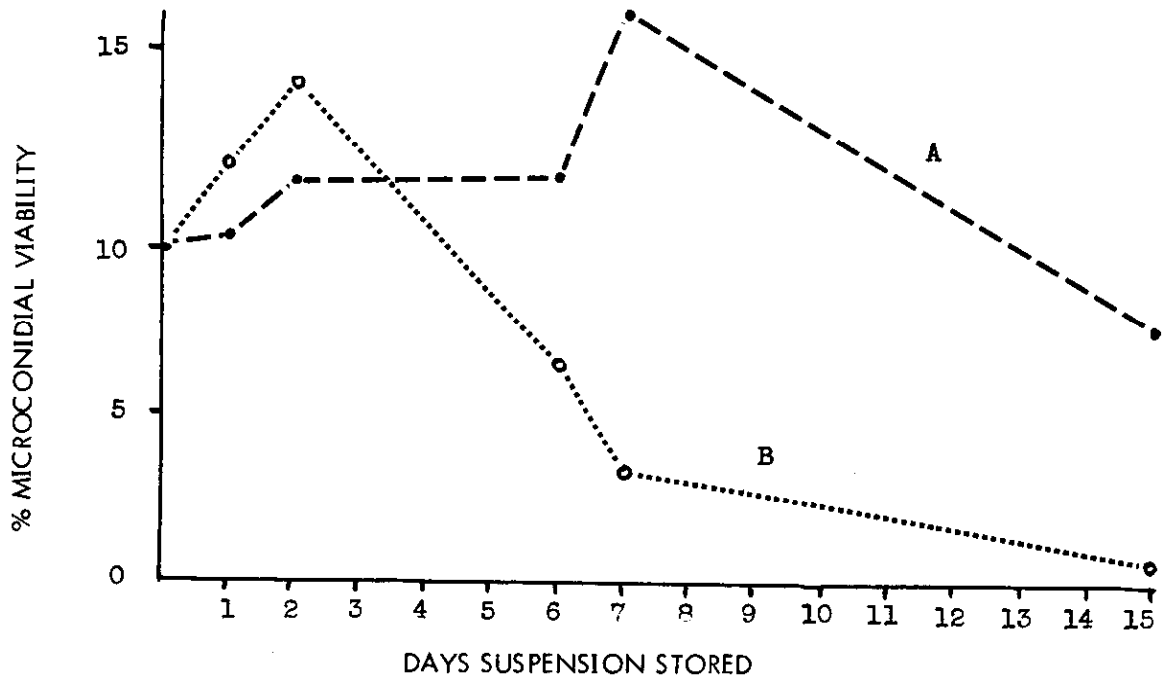


Figure 2. Viability of a microconidial suspension stored in distilled water (A), or in Fries minimal minus a carbon source (B). Viability determined as in Figure 1 above.

Under the experimental conditions used, microconidiation begins about the third day after inoculation. Figure 2 summarizes the viability of microconidia, harvested from a 5 day old culture, and stored at 4° C as a suspension in water (curve A), or in Fries minimal, minus a carbon source (curve B). In the light of recent data of Brockman and deSerres (1963 *Am. J. Bot.* 50: 709) on the "sorbos toxicity" effect of sucrose vs a mixture of glucose and fructose, it is possible that much higher initial viabilities of microconidia can be obtained. Further, microconidia are known to be susceptible to desiccation, and higher viability is known to be associated with growing microconidial strains in humid atmospheres. --- Department of Biological Sciences, Dartmouth College, Hanover, New Hampshire.