

Nuclear number in germinating conidia of *Neurospora*

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Abstract

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A study of the nuclear division time in *Neurospora crassa* conidia is reported here. The problem was first approached by a cytological method; namely doing a

nuclear stain and counting the number of nuclei per conidium. The culture, wild-type 3.1a, was grown on either complete or minimal slants for at least 5 days, then conidia were transferred to a liquid minimal medium in which they were grown at 25°C for the desired length of time with samples taken at one-half hour intervals. The cells were then centrifuged, washed and stained using a Giemsa nuclear stain.

		No. of nuclei per conidium (percent of total cells)			
		1	2	3	4
Cells from Minimal slants	0 time	33.6	49.0	13.5	3.6
	1/2 hour	36.6	47.0	12.0	3.4
	1 hour	34.5	47.0	14.3	3.0
	1 1/2 hours	30.0	44.5	15.4	5.6
	2 hours	26.3	48.0	17.0	5.4
Cells from Complete slants	0 time	32.3	49.0	15.0	2.8
	1/2 hour	39.0	44.6	11.7	3.5
	1 hour	34.6	48.0	13.0	3.0
	1 1/2 hours	32.3	47.5	15.0	3.7
	2 hours	34.0	44.3	16.6	3.8

It was found that there is no appreciable difference in the number of nuclei per conidium between cultures grown on minimal and complete medium in contrast to the report by Huebschman (*Mycologia*, Sept. -Oct. 1952) that cultures grown on complete medium showed about twice as many nuclei per conidium as those grown on minimal medium. There was an indication that those grown on complete medium develop germ tubes at an earlier time than those grown on minimal medium. During the period of observation, however, these conidia formed germ tubes with no detectable nuclear divisions.

By the technic used here it was not possible to get a precise measure of the nuclear division time. The nuclei underwent a cycle of change in appearance. The stained nuclei from resting cells were discrete and compact. After one hour in culture they became very granular and diffuse. After two hours in culture they regained the discrete appearance of resting nuclei. It appears as if the nuclei were preparing to divide after 1 hour in the growth medium, however no corresponding increase in the number of nuclei per

cell could be demonstrated after this period. ---Department of Genetics, University of Washington,
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