

Bakerspigel, A. Migrating and dividing nuclei in somatic cells of *Neurospora*.

Recent HCl-Giemra and Azure A-SO₂ stained preparations have provided new observations on dividing nuclei in somatic cells of *Neurospora crassa*:

- 1) In contrast to the report by Wilson (1966 *Neurospora News* 10:6), division does not always occur perpendicular to the longitudinal axis of the cell. In fact, nuclei in several stages of division can be found lying parallel to the longitudinal axis of germinating conidia and hyphal cells.
- 2) During the final reparation of sister nuclei (telophase) two lagging chromosomes can be observed. One end of each of these chromosomes is attached to the nucleus. Their free ends are swollen or bulbous.
- 3) During early nuclear division the chromosomes appear to be looped, hooked or curved at one end. A ring-shaped chromosome has also been observed at this stage. The free ends of at least three chromosomes in metaphase complexes were observed to have swollen ends.
- 4) A migrating nucleus in a hypha can be oval in shape. A long slender intranuclear strand can be observed attached to the nuclear membrane. This strand may be "Y"-shaped and extends away from the septal pore through which the nucleus migrated, terminating in a small, densely stained body which is assumed to be the centriole. Such a strand may be composed of two portions, one of which is twice the length of the other. The regions to which these strands are attached appear to be composed of tiny granules situated opposite each other on the nuclear membrane. In contrast to some previous reports, none of these strands were observed to extend in opposite directions.
- 5) Although chromosomal complexes and individual chromosomes were observed, no classical alignment of these chromosomes on a metaphase plate was noted. Wilson reported that a spindle occurs only between separating chromatids. Present observations suggest that a "spindle apparatus", similar to that described by the writer in *Trichophyton mentagrophytes* (Robinow and Bakerspigel 1965 p. 119-161. In Ainsworth and Sussman (eds), *The Fungi*, Vol. 1. Academic Press, New York), may operate in dividing, somatic nuclei of *N. crassa*. ■ ■ ■ Department of Clinical Microbiology, Victoria Hospital, London, Ontario, Canada.