Barratt, R. W. ond W. N. Ogata. A method for scoring [mi-1] and [mi-1]f in growth tubes.

During the course of routine laboratory maintenance over a prolonged period, strains exhibiting extranuclear inheritonce accumulate nuclear modifiers affecting growth rate and cytochrome a + a_3 spectra (Barratt 1966 Neurospora Newsl. 12: 11; Grindle and Woodward 1966 Neurospora Newsl. 12: 9). Despite the accumulation of these modifiers in [mi-l], also called poky, this strain con be distinguished from the standard wild type strains by its growth in race tubes.

As shown in Figure 1, significantly different rates ore obtained when turbid, filtered conidial suspensions of [mi-1] (both muting types), and [mi-l]f, which contains the nuclear gene modifier F, are used as inocula and growth is compared with that of wild type STA4. Under these conditions, both [mi-l] and [mi-1]f strains exhibited on extended lag phase when contrasted with the wild type. Further, growth rates calculated between 30 and 40 hours after inoculation were as follows: wild type 5.4 mm/hr, [mi-1]f 3.6-4.4 mm/hr, and [mi-1] at 1.8 to 2.3 mm/hr. Thus, despite the fact that the [mi-1] strains in FGSC hove been shown to contain nuclear modifiers (Grindle and Woodward 1966 Neurospora Newsl. 12: 9), this scoring method enables distinction of [mi-1] from [mi-l] f and from the wild type. Improved strains of the mi series freed from these nuclear modifiers are being solicited by the FGSC for deposition and should be available shortly. - - - Fungal Genetics Stock Center, Department of Biological Sciences, Dartmouth College, Hanover, New Hampshire 03755.

Figure 1. Growth on race tubes on Difco Neurospora minimal agar medium at 32° c.

(I) wild type STA4 (FGSC 262)
(II) [mi-1]f A (FGSC 385)
(III) [mi-1]f a (FGSC 386)
(IV) [mi-1] A (FGSC 343)
(V) [mi-1] a (FGSC 384)