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Gene-controlled resistance to aromatic hydrocarbons in Neurospora crassa and its relationship to the inhibition by L-sorbose.

Vomvoyianni 1965 Can. Jour. Bot. 43:765). Five such strains were used in random and tetrad analyses and each was shown to have resulted from a single-gene mutation. There may be more than one mutational site for resistance to these hydrocarbons as it has been shown for another ascomycete (Georgopoulos and Panopoulos 1966 Can. Jour. Genet. Cytol. 8:347). At least one of these sites is linked to the mating type locus and to patch (see also NN#9:44). On control medium hydrocarbon resistant strains tend to sporulate less abundantly than the respective wild types.

Although patch confers no tolerance to the hydrocarbons all hydrocarbon resistant mutants "escape" the effect of L-sorbose at least as effectively as patch. On media containing sucrose and L-sorbose some of these mutants grow much better than Patch. Whether different levels of inhibition by sorbose are associated with different genes for resistance to aromatic hydrocarbons is now being investigated. ■ ■ ■ Department of Biology, Nuclear Research Center "Democritus", Athens, Greece.

Neurospora crassa strains STA4 (wild type) and patch (~~non-colonial~~ growth on up to 1% L-sorbose) were used and were found highly sensitive to diphenyl, naphthalene, acenaphthene and other similar compounds. Resistant strains were obtained from fast growing sectors, as has been described for other fungi (Curtis et al. 1956 Am. J. Botany 43:594, Whittingham 1962 Am. J. Botany 49:866, Georgopoulos and