Bonnett
with # 19.

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Copied from Microbial Genetics Bulletin, 17: 17, 1960

Perkins, D. D. Incidence of canavanine sensitivity in Neurospora.

In an attempt to recover genetic differences in canavanine resistance, such as those studied by Horowitz and Srb (1948) and by Teas (1947, 1951), we have examined ten different Neurospora crassa strains of various origins, including wild types 74A, and Abbott 4A. The latter was previously known to be resistant. Only one of the strains, al(Y602), differed markedly from 4A in its level of resistance, failing to grow in the presence of 0.012 mg/ml. L-canavanine H_2SO_4, a concentration which does not prevent growth of the others. This sensitive strain originated from a cross in which one of the parents was the known sensitive strain 25a. It seems likely from these results that sensitivity rather than resistance is the unusual condition. Our limited genetic data confirm Teas' 1947 report that a gene is concerned which is linked near the albino region of Group I. The difference is completely scorable in 10 x 75 mm. tubes with medium containing 0.02 mg/ml. canavanine. Adaptations do not interfere with early scoring, and are minimized by using small inocula. Canavanine sensitivity may not be inferior as a genetic marker to many of the nutritional mutants that are used routinely.--Department of Biological Sciences, Stanford University, Stanford, California.

Note added March 1960: Scoring is most easily accomplished with canavanine at 0.2 mg/ml., even though the growth of can$^+$ may be delayed somewhat. (Canavanine is now available commercially.) W. R. Lockhart and H. R. Garner (Genetics 40:721-725) have provided additional information on the genetic basis of differences in canavanine sensitivity in Neurospora.

can-s
~~can~~ = canavanine sensitive

~~can~~$^+$ = " resistant
can-r