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Sex-hormones in *Neurospora crassa*: hormone action is affected by genetic background

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Abstract

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Islam, M.S. Sex-hormones in Neurospora crassa: Hormone action is affected by genetic background.

Sex-hormones (sex and fertility-inducing substances) have been isolated from single strain cultures as well as established cross of Neurospora crassa (Em A and Em a) and their biological properties determined (Islam and Weijer 1969 Neurospora Newsletter 15:14; Vigfusson et al 1971 Folia Microbiol. 16: 166; Islam 1973 Mycopath. et Mycol. App. 51: 87). To determine if hormone action is affected by the genetic

background of compatible strains, pair-wise crosses were made with different tester strains (fl^P a, St. L. a, Em a) to a sterility mutant (7232 A). Inocula were placed at diagonally opposite sides of the petri plates containing 15ml of the crossing medium of Westergaard and Mitchell (1947 Am. J. Botany 34: 573-577), supplemented with a sex-hormone-containing extract from Em A. Five replicate plates were made for both extracted-treated and control (no extract) plates. The number of perithecia per plate was determined at weekly intervals during 4 weeks of incubation at 24-25° C.

The results showed that there was an improvement of fertility (increase in number of perithecia) in extracted-treated plates of crosses fl^P a x 7232 A and St. L. a x 7232 A as compared with controls. However, in the case of the cross Em a x 7232 A no significant improvement of fertility was noticed. These results indicate that the genetic backgrounds of compatible strains are also a factor for the effective action of Neurospora sex-hormones. - - - Division of Genetics, Atomic Energy Centre, P.O. Box 164, Ramna, Bangladesh.