Reddy, M. M. and S. F. H. Threlkeld. Isozyme variation in natural populations of Neurospora.

Eight heterothallic (P384, P385, P406, P407, P413, P419, P438, P439) and three homothallic strains (P388, P404, P435) of Neurospora were obtained from D. D. Perkins' Florida collection. Mycelial extracts from these rtroinr were subjected to acrylamide and starch gel electrophoresis. Out of ten enzymes examined, electrophoretic variation was observed only for esterases. The sites of esterase activity were numbered from 1 to 4 in order of rate of movement towards the anode, with site 1 being the fastest.

Of the eight heterothallic strains, six (P384, P385, P406, P407, P413, P419) hod esterase rite 1 ond two strains (P438, P439) hod both esterase sites 1 and 2. Of the three homothallic strains, two (P388, P436) hod esterase rites 3 and 4 ond the third (P404) hod esterase site 2. Amylase, aminopeptidase, o-glycerophorphote dehydrogenase, 6-phosphogluconate dehydrogenase and in&phenol oxidase showed one site of activity. Acid phosphatase showed activity at two sites and lactate dehydrogenase, peroxidase and glucose-6-phosphate dehydrogenase showed activity at three sites for all the strains. The absence of electrophoretic variation for there enzymes suggests that selection may have been operating against enzyme variants resulting in stabilization of the enzyme genotype of isolated populations in nature.

We would like to thank D. D. Perkins for kindly providing the strains. - - - Department of Biology, McMaster University, Hamilton, Ontario, Canada.