

DIFFERENTIATIONS OF *ASPERGILLUS* SP. REVEALED BY STARCH ZYMOGRAPHY OF MADHYA PRADESH INDIA

RAMANUJ PATEL

Department of Biological Sciences, R.D. University, Jabalpur, Madhya Pradesh, India

ABSTRACT

Sixteen isolates of *Aspergillus* belonging to six species viz. *A. flavus*, *A. fumigates*, *A. nidulens*, *A. niger*, *A. terreus* and *A. ustus* were grown on sterilized wheat grains. This resulted in the release of extracellular amylase enzymes for the utilization of substrate by them. The enzymes were detected by using the starch plate assay in which appreciable amylase activity was observed. The various extracellular amylases released by different isolates were separated by vertical SDS-PAGE conditions (created by SDS). It showed 14 polymorphic bands categorized in 6 zymogram groups (starch) indicating genetic variability in *Aspergilli*. Amylase designated, as A1^{24.28} was common in all the zymogram groups except some isolates and there were few unique bands (amylases) that were characteristic of particular isolates. The results showed that the species of *Aspergillus* studied were producing different amylase enzymes when they were given a common substrate for growth and reveals that at least 14 different amylase enzymes are present in these six species of *Aspergilli*, although more number of enzymes could be present because production of individual enzyme largely depends on the particular substrate available since some enzymes are inductive in nature.

(A= Amylase band, 1= Band number, 24.28= Relative mobility)

KEYWORDS: *Aspergillus* sp, Zymography, Enzymes Etc