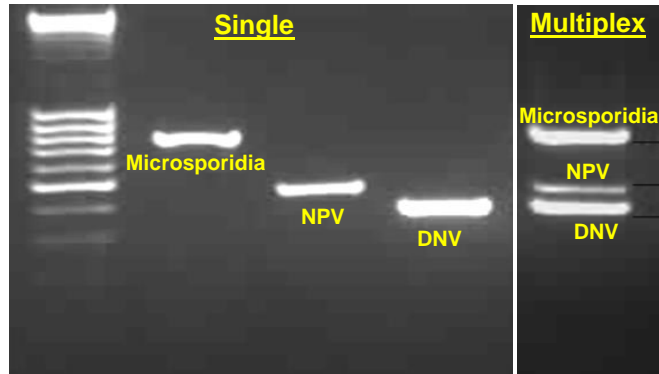


## Development of a multiplex polymerase chain reaction technique for the simultaneous detection of microsporidians, nucleopolyhedrovirus, and densovirus infecting silkworms

A major share for the success of any silkworm crop is early and easy identification of diseases. The conventional method of detecting the major silkworm diseases viz. pebrine caused by microsporidians, grasserie by nucleopolyhedrovirus (NPV) and flacherie by densovirus (DNV) in addition to other pathogens infecting *Bombyx mori* through microscopic diagnostic methods are cumbersome. In this context, a highly

specific and sensitive novel PCR-based assay system, Multiplex PCR has been developed under optimized PCR conditions for simultaneous detection of microsporidians, NPV and DNV (BmDNV2, 3, Zhenjiang and BmDNV6) using three primer pairs. The



primer pair for microsporidians was designed from the conserved regions of 16S small subunit ribosomal RNA gene of microsporidians, for NPV from the polyhedrin gene of NPVs and for DNV from the internal sequences of *B.mori* DNV (BmDNV). This technique is useful used for early detection of pathogens infecting silkworms assisting research and extension centers for the safe supply of disease-free silkworms to farmers. The technology is under the process of patenting with the National Research Development Organization (NRDC), Govt of India.