

PEBRINE DISEASE (*NOSEMA BOMBYSCIS* N.) IN *BOMBYX MORI* L.: THE RESEARCH TRENDS

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ABSTRACT

Crop loss is a regular feature associated with Indian sericulture scenario for various reasons. It may be accounted for different sorts of disease, parasites, weather conditions or even for cultural reasons. But none of them is as severe as the larval mortality owing to pebrine disease where the entire crop is lost. The causative agent for the disease is *Nosema bombycis* Nageli, a spore forming eukaryotic, obligatory and intracellular protozoan. Detection and elimination of pebrine disease is essential for sustenance of cocoon crop from industrial point of view. The age old detection procedure, the only reliable and widely accepted technique for preparation of pebrine free eggs, is the one which involves examination of mother moth tissue smears under light microscope. The technique was developed by Louis Pasteur in 1870 and is still followed to detect the pebrine spore in the field of commercial seed production in all silk producing countries including India. Thereafter, though many novel techniques were developed to detect pebrine spore, the popularity of the mother moth examination has not been dwindled. Due to many practical reasons, the other detection procedures remained only as of theoretical interest for the researchers. This review accounts the exhaustive amount of research work detailing the characteristic features, development cycle and the many factors related to the pathogenicity of microsporidians affecting silkworm. It highlights all the scientific techniques formulated so far for detection of pebrine spores, as carried out by many technologies, pinpointing their merits and demerits, and attempts to throw light on the new strategies to be carried forward.

Key words: *Nosema bombycis*, pathogenicity, spore wall proteins, transovarial transmission.