

# Saving silkworms: Current approaches to combat Microsporidiosis

December 5 2012

---



Credit: denthewise

A recent publication by Singh and colleagues in the *Pertanika Journal of Tropical Agricultural Science* explores a range of methods to combat microsporidiosis, a highly infective disease affecting silkworms - a key task that determines the future of the sericulture industry.

Microsporidiosis is a disease caused by highly infective parasitic microsporidian. The [spores](#) of microsporidian, known as pebrine, infect almost all ages, stages, breeds and hybrids of [silkworms](#). A recent publication by Singh and colleagues in the *Pertanika Journal of Tropical Agricultural Science* explores a range of methods to combat this disease - a key task that determines the future of the sericulture industry.

The disease is primarily transmitted to silkworm eggs within the body of the infected mother [moth](#), but also externally, for example by rearing healthy silkworms with infected larvae. Infections could lead to loss to the sericulture industry and causes instability to the volume of silk outputs. Efforts have been made to eliminate pebrine but so far with limited success. In order to help save silk production, the authors reviewed recent studies presenting different aspects of pebrine.

Previous research has identified various approaches to save silkworms. One of the most effective methods, according to the authors, is based on the selection of pathogen-free eggs through a systematic examination of the mother moths after laying eggs. Recently, microscopic test using mother moths was introduced as an easy and accurate diagnosing technique.

Furthermore, a three-tier examination approach (larval, pupal and moth) is used for [disease management](#). Thermal treatment, [sterilization](#) and monoclonal antibody technique also help minimize pebrine infections.

The disease is becoming increasingly complex because of increasing number of different types of microsporidian infecting silkworms. Currently there is no one technique that is able to quickly identify the type of parasite involved which makes it more difficult for silkworm breeders to take appropriate action. While the methods described here are used to prevent pebrine, finding a more effective, all-round approach remains the task for future research.

Provided by Universiti Putra Malaysia (UPM)

Citation: Saving silkworms: Current approaches to combat Microsporidiosis (2012, December 5) retrieved 20 March 2024 from <https://phys.org/news/2012-12-silkworms-current-approaches-combat-microsporidiosis.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.