

POSSIBILITY OF UTILIZING SILKWORMS FOR MULTIPLICATION OF DENDROLIMUS SPECTABILIS CYTOPOLYHEDROSISVIRUS

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ABSTRACT

Dendrolimus spectabilis is the major pest of Pinus plants in East Asia, and *D. spectabilis* cytopolyhedrosis virus (DsCPV) has been used to control the pest in China and Japan. Large scale multiplication of DsCPV on its primary host *i.e.*, *D. spectabilis* works out expensive. Possibility of utilizing silkworms as an alternative host for multiplying DsCPV was explored as a cost effective measure. Thirty five races of silkworms were per orally inoculated with 1×10^8 DsCPV polyhedral / g artificial diet. On examination after ten days, 29 races revealed the presence of DsCPV with the highest incidence of 26.7 % in Oh 1 Gou race. Hence, progenies of susceptible populations of Oh 1 Gou race were raised by subjecting to DsCPV inoculation followed by line breeding and directional selection for higher susceptibility for three generations. Resultant lines revealed a maximum DsCPV infection level of 90.0%. DsCPV obtained from the silkworms were confirmed by reverse transcription polymerase chain reaction method, and the presence of BmCPV if any, could also be differentiated.

Key words: *Dendrolimus spectabilis* cytopolyhedrosisvirus, DsCPV, infection, silkworm.