

Experiment No. 12: Methods of application of silkworm bed disinfectants for management of silkworm diseases.

Bed Disinfectants:

An agent that destroys harmful microorganisms (Bacteria and fungi) in the silkworm rearing bed eg., formalin chaff, reshamkeet oushadh, slaked lime powder *etc.*,

Preparation and Application of Formalin Chaff:

In this method formalin solution of required concentration depending on the silkworm instar is mixed with burnt paddy husk and sprinkled on the larval body and bed. The concentration of formalin required is 0.4 per cent during I and II instars, 0.5 percent in III instar, 0.6 per cent in IV instar and 0.8 per cent during V instar. The paddy husk is charred or burnt either by burning or roasting in a pan without making ash. Depending on the instar of larvae, the required strength of formalin is mixed with the burnt paddy husk in the ratio of 1:10 by volume and mixed thoroughly. Then it is sprinkled evenly on the larvae and covered with a paraffin or double fold newspaper. After 1/2 an hour the paper cover is removed and feed is given. Formalin chaff application should not be done when larvae are preparing for moult or under moult. Application of formalin chaff can be done before brushing on the newly hatched larvae and after each moult 1/2 an hour before the resumption of feeding. The frequency of application of formalin chaff should be increased depending on the incidence of disease.



Application of Dithane M- 45 (Zinc ion Manganese ethylene oxide bisdithio carbomate) or captan (N- Trichloromethyl Thio-4-Cyclohexane 1, 2-Dicar- boximide)

These are the two commonly available fungicides used for the control of muscardine. These fungicides are used at a concentration of 1 per cent during, I, II and III instars and 2

per cent during IV and V instars in combination with levigated China clay or Kaolin. The ingredients are thoroughly mixed and tied in a thin cloth and dusted on newly born larvae and after each moult 1/2 an hour before the resumption of feed. An additional dusting should be done on the 4th day of final instar after bed cleaning. The quantity required is 2-3 grams per 0.1 sq m. area during I, II and III instars and 4-5 grams during IV and V instars. The dustings should not be done when the larvae are preparing for moult or are under moult. The dusting frequency should be increased if the intensity of infection is high.

Application of Reshamkeet Oushadh

It is a bed disinfectant formulation used to prevent both muscardine and grasserie. Its constitution, method of application and quantity required has already been indicated in the part covering the control of grasserie disease.

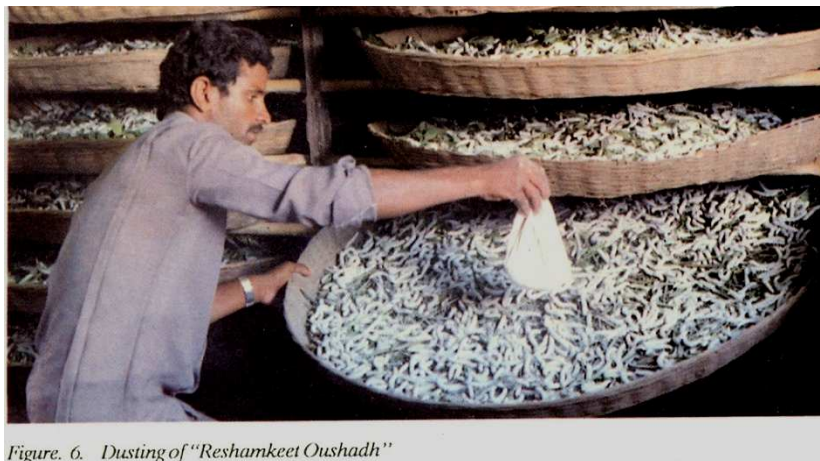


Figure. 6. Dusting of "Reshamkeet Oushadh"

REFERENCE

1. Anonymous, 1990, Hand book on pest and disease control of mulberry and silkworm, United Nations, Thailand.
