

Research Article

ECO-FRIENDLY MANAGEMENT OF UZIFLY (EXORISTA BOMBYCIS) FOR REDUCTION TO LOSS OF COCOON PRODUCTIVITY IN PUNE DIVISION OF MAHARASHTRA STATE

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ABSTRACT

The bivoltine sericulture has remarkable to achievement of the target goal from 80MT to 258MT till date. uzifly in the Nontraditional belt of sericulture in Pune area was in 2016 -2017.and losses in range 10- 20% of cocoon yield. the larval parasite being the dreaded menace of sericulture require constant vigil and management to be check and control by simple eco-friendly methods as biological physical mechanical and effective containment of uzifly up to95%. The performance of Nesolynx thymus is observed for reduction of parasitoidation of uzifly on silkworm in the pune area in the year 2016-2018.

Keywords: Biocontrol agent, Nesolynx thymus sticky traps

INTRODUCTION

The bivoltine (*Bombyx mori* .L) sericulture in Maharashtra has registered as impressive growth by adopting the number of technologies to both in management of mulberry garden and silkworm rearing for improvement of cocoon productivity perunit area. The Pune division is largest silk producer and has produced silk is 98 MT which is contributing more than 40% in whole cocoon production of Maharashtra state. The bivoltine sericulture has remarkable to achievement of the target goal from 80MT to 258MT till date. The bivoltine silk production was initiated by the introduction of KA X NB4D2 and NB7XNB18 several efforts to introduce the bivoltine breeds have not yielded the desired results till 1990 the evolution the productive breeds of CSR series with high silk content (22-24%) and silk recovery (19-20%) with2A-3A grade silk. Currently over 90% of bivoltine silk production is realized through rearing ofCSR2XCSR4 as well as the double hybridFC1 (CSR6XCSR26) XFC2 (CSR2XCSR27).

METHODOLOGY

Uzi fly, *Exoristabombycis* (Louis) is an endo-larval parasitoid of the silkworm, *Bombyxmori* L. which inflicts a cocoon yield loss of 10 to 20% in nontraditional silk producing belt of pune area of Maharashtra state and posing constant threat to the existence of silk industry by causing a loss to the Tune of Rs. 10 to 20crore /annum. Study was conducted in three years from 2016 -2018 in nontraditional sericulture area of western region of Maharashtra state and observation s collected from the field level relevant of incidence and parasitoidation in silkworm during course of rearing incidence level is furnished below as.

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RESULT AND DISCUSSION

Period of occurrence: It occurs throughout the year, but more serious during rainy season.

Damage and Symptoms: It lays 1 or 2 cream colored eggs on each silkworm larva (prefers 4th or 5th instar larva).Eggs hatch in 48 to 62 hours. A black scar is formed at the point where the egg hatches and the uzi maggot enters the body of silkworm. This black scar is the main symptom of uziinfestation.

Life cycle:

Fecundity: 350 – 400 eggs @ 1 or 2 eggs/silkworm

Incubation period: 2 – 3 days

Maggot stage: 5 – 7 days

Pupal period: 10 – 12 days

Total life cycle: 18 – 22 days

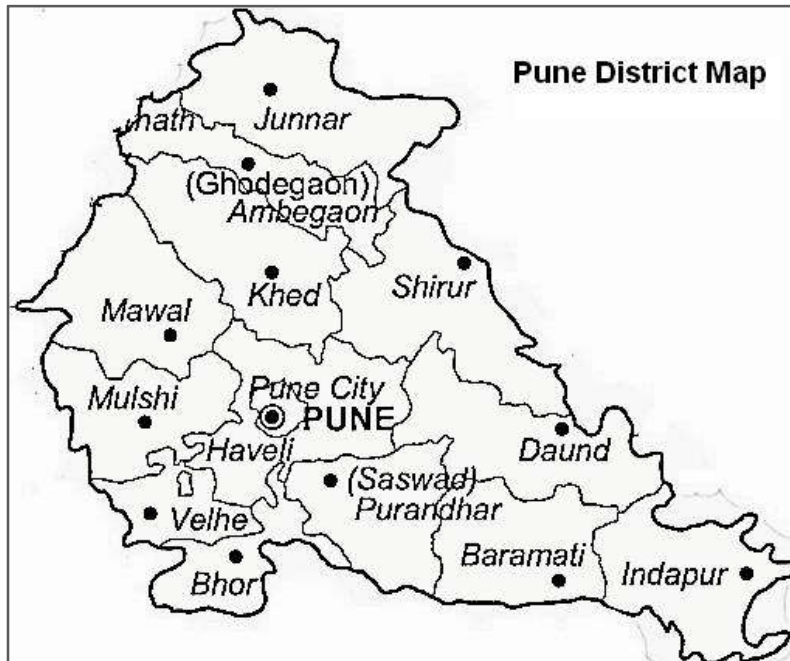
Eco Friendly Management

(A) Pre-spinning package:

Exclusion Method: Provide wire mesh/nylon net on all windows/doors silkworm rearing shed. Provide doors with automatic closing mechanism. Provide anteroom at the entrance of the rearing shed.

Physical (sticky trap f for uzi): Studied and observed at shenoli village 2009-2010 the sticky trap for trapping of uzifly is more effectively because every day more than 25 flies adult have trapped per sticky strip at rearing shed of shenoli farmers and sticky strips are install and hang with tied by rope on pillar inside the rearing shed in 4-5 place this mechanism is ideal tools to reduction the dynamic population of uzifly in the field and check the multiplication.

Serial no	village	No of dfls	No of uzi worms infested	% of infestation
1	Hol	200	75	15
2	Wathar	200	60	12
3	Hivare	175	80	16
4	Devalgaonraje	300	95	19
5	Vadapuri	200	115	23



Biological control: Release *Nesolynx thymus* (an ecto-pupal parasitoid of the uzi fly) inside rearing shed on 3rd day of V instar. After mounting of all spinning worms transfer the same pouches near the chandrikes. After harvesting of cocoons keep the same pouches near the manure pit. Two pouches are required for 100 dfls. The performance of *Nesolynx thymus* is observed for reduction of parasitoidation of uzi fly on silkworm in the pune area in the year 2016-2018 the data is furnished below as.

- 1) Name of parasitoids-*Nesolynx thymus*
- 2) Period of release 2016-17
- 3) Quantity of NT release 2500 pouches
- 4) No of farmer covered 150
- 5) No of DFLS Covered 125000
- 6) Incidence of uzi before release 15%
- 7) Incidence of uzi after release 2.70
- 8) Extent of suppression of uzi incidence 80.5 %

(B) Post spinning package:

- i) **Trapping of uzi fly:** Place sticky trap inside the rearing shed on all the window base (till the removal of rearing residue) to trap the uzi flies emerging inside the rearing house till rearing residue is removed. Also, keep the door in closed condition which will prevent the uzi flies escaping from the rearing house and further multiplication.
- ii) **Packing of silkworm litter:** Most of the uzi fly maggots do pupate in silkworm rearing bed itself, as no cleaning of bed is practiced in shoot system. Therefore, after the completion of the rearing, it is suggested to separate the silkworm litter from

the mulberry twigs in rearing bed and pack it immediately in plastic bags and keep outside the rearing house at least for 15 days. This will ensure destruction of all the maggots, pupae and emerged flies available in the litter. From 100 DFLs rearing, 8 to 10 bags of residue is expected. Later the same can be utilized for composting.

- iii) **Proper disposal of flimsy cocoons:** Flimsy cocoons should be burnt. Otherwise, they should be kept separately in a container so that uzi maggots, if any, coming out from them can be collected and destroyed. uzi flies trapped inside rearing house after spinning Uzi maggots & pupae in rearing residue Packing of litter in plastic bags

Availability of *Nesolynx thymus*: Available at Pest Management Lab., CSRTI, Mysore. And SRK Biocontrol agent unit Hosur Tamilnadu pouches required and brushing date of silkworms. Supply is made by courier on receipt of the cost of pouches well in advance

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