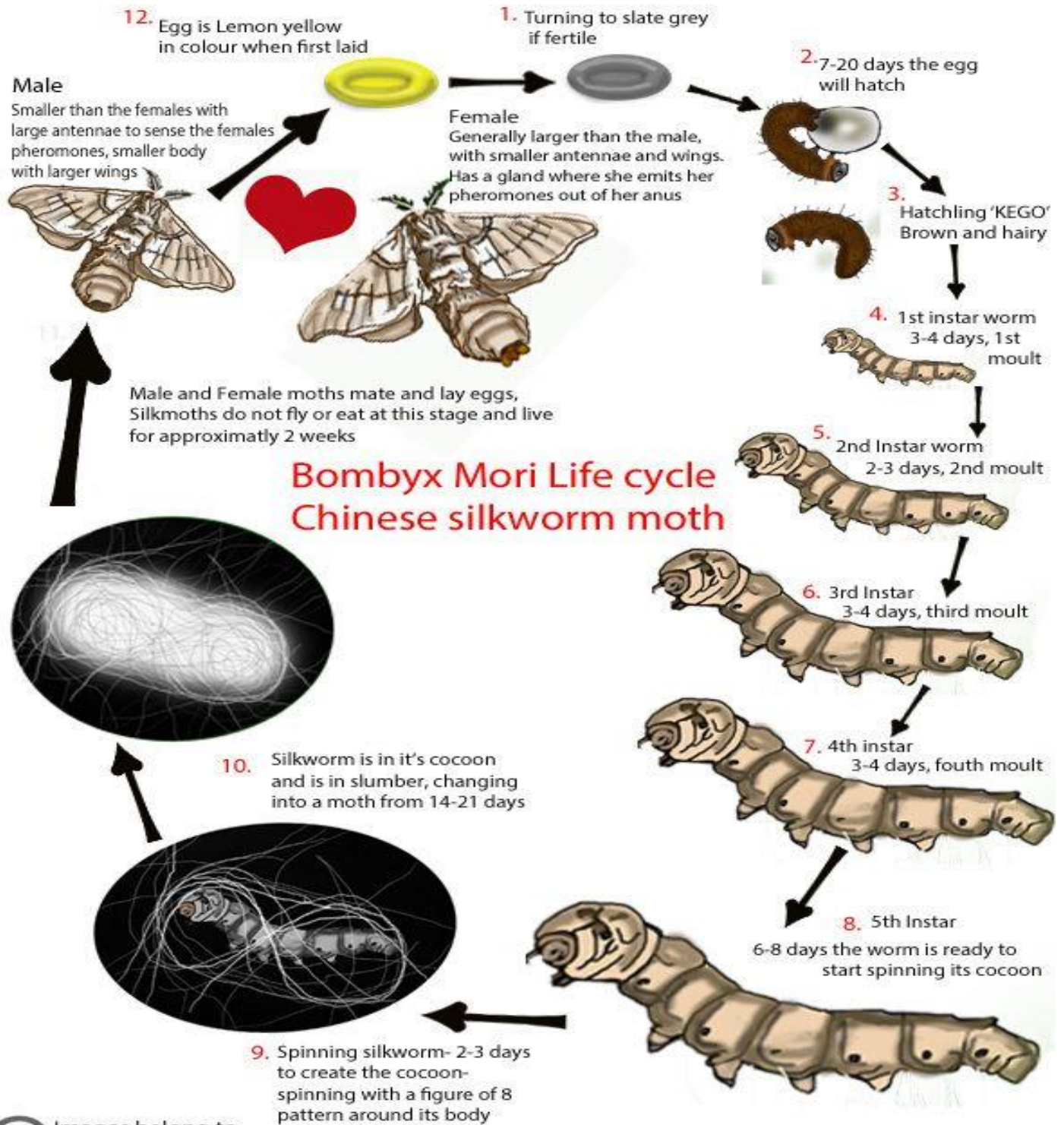




**FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES**

# ENT -321 Management of Beneficial Insects 2 (1+1)

## Lecture-8 Silkworm Rearing and Biology:



### **Mulberry silk worm rearing technique:**

The grainage rooms along with its appliances should be thoroughly disinfected prior to commencement of operation and kept ready to receive seed cocoons. Immediately after the receipt of seed cocoons, they are to be spread on trays in a single layer to facilitate good aeration. Disease cocoons are rejected and healthy seed cocoons alone should be preserved in trays for further processing. Before the expected day of emergence of moths, the cocoon preservation rooms should be kept dark. After emergence, only healthy and active moths are taken for pairing and allowed for 3.5 to 4 hours of pairing. The mated female moths are placed on egg sheet and kept in dark condition for oviposition. Throughout the process of pairing, despairing and oviposition, optimum temperature of  $25 \pm 10$  C and relative humidity of  $75 \pm 5\%$  should be maintained.

For disinfestation of eggs, egg sheets are dipped in 2% formalin for 10 - 15 minutes. The eggs are subjected to ideal conditions of incubation. Optimum temperature of  $25 \pm 10$  C and relative humidity of  $75 \pm 5\%$ , 16 hours of light and 8 hours of darkness are ideal. The natural food plant of the silkworms is the mulberry tree (*Morus* sp.). Before feeding the leaves to the larvae, soak the leaves for three minutes in a cleaning solution. Thoroughly rinse the leaves in running water and shake off excess water. Store the leaves in a plastic bag in the refrigerator. The first to third instar larvae require young, tender leaves of mulberry. The fourth and fifth instar larvae will can eat older mulberry leaves. The larvae undergo 4 moults, each instar having its own duration and weight. The last instar increases in size tremendously stops feeding and start spinning cocoon. These ripe worms are then transferred to mountages (Chandrikes). The larvae suspend themselves to spirals and spin cocoons. The mature worm detaches itself from inner surface of cocoon and transforms into the pupa. The process of killing the pupa in the cocoon before they metamorphosis into moths is called stifling. Stifling is done by drying cocoons under the sun, hot air stifling or steam stifling. The process of unwinding of silk from cocoons is called reeling. Reeling is done by country charkha, cottage basin and filature. Filature is large factory where reeling of cocoons is carried out with the help of advanced technology.