

Crop Protection :: Parasite Production Methods

Production of Braconid parasite in Coconut Kernel Head Caterpillar

It is a larval exoskeletal parasite. It is honey or brown in colour with a smooth body structure. Mother parasites have a long egg laying organ and the abdomen is larger than that of the male parasites. Fully grown parasites can survive for 20-25 days. A mother parasite lays about 100 to 125 eggs. The eggs are laid on the outside of the body of the larvae. The number of eggs laid varies according to the size and size of the worm. The braconid egg stage is one day. The larval stage is completed in 4-6 days and the pupal stage is 3-4 days. The total life span is 8-10 days.

In laboratory, Bracon previcornis parasite can be produced using rice moth larval stage or coconut black headed caterpillar.

Method of

production A small glass tube (6"x1") with 50% honey syrup dipped in cotton is glued to the inside of the test tube and the fully grown braconid parasites are left in equal numbers of male and female parasites and allowed to mate for two days. After two days, the male parasites are separated.

Parasitic Breeding Method:

Clean the glass chimney of the kerosene hurricane lamp used in our homes. You can see that both sides of the hurricane lamp glass are open. If the glass chimney is held upside down, the wide mouth is upwards and over the narrow mouth a thin muslin or mouth cloth or tissue paper (10 x 10 cm) is fastened with rubber tape. Place the larval stage of the rice moth at the rate of 2 larvae per female braconit. Rice moth larvae are 20 days old and 1.5 cm long. The larvae should be long, soft and healthy. Then place another thin cloth over the worms and tighten it with rubber tape. Now the worms are placed between two thin cloths. Hence this process is also called as sandwich or intermediate method.

Braconid mother parasites are injected into the narrow mouth of the glass chimney in the ratio of one female parasite to two worms. Then cover the narrow lower part of the chimney with a cloth and tie it with rubber tape. As food for parasites, 50 per cent honey mixture is placed in a wax sheet in a wax sheet and placed inside the chimney. The parasite goes to the broad mouth of the chimney, pierces a thin cloth and uses its egg laying organ to inflict the larvae first and then lay eggs on them.

After a day or two, the mother parasites can be released through the narrow mouth and used to parasitize the new larvae. After four days, remove the rubber tape tied to the wide mouth of the glass chimney and remove the two fabrics from the upper part to see the parasitic infected rice moth caterpillars. The larvae of the parasite grow and after destroying the host worm, they nest on the cloth nearby and become pupae. Only the dead host worms should be removed with the help of forceps or incense. Because Dead worms can develop microorganisms like other bacteria on the body and give off a foul odour. Cloth containing the pupae of the parasite can be kept in another carton or plastic container with little ventilation to collect the fully grown parasites on the days when they emerge.

Parasites can be stored in refrigerators at 10°C for about 20 days during pupae stage. Fully grown insects cannot be stored in the refrigerator.

To control the required amount

of coconut black headed caterpillar, 10 braconid parasites per palm are required. At the rate of 800 parasites are required per acre. Similarly, during the black head caterpillar stage, three times the braconid parasite can be applied at an interval of 10 days for better results.