

by the spray fluid. A second spray after 15 days may ensure the death of residual population.

- If the infestation is mild, dip a small cotton clothe in mild soap solution and swab on the infested area. This can be done twice at an interval of 5 days.
- Spraying of synthetic insecticides will be done only if really needed. There are number of natural enemies in the field to check the population of mealy bugs, but the indiscriminate use of chemical insecticides will adversely affect its natural enemies and pave the way for pest resurgence.
- Insecticides like Profenophos 50 EC-2ml/l; Chloropyriphos 20 EC 4 ml/l; Dime thoate 30 EC 2 ml/l are reported to be effective against mealybugs.



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# Mealybug Management in Cassava



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Mealybug is a very noxious insect pest on cassava (Tapioca), and this soft bodied insect can easily be identified by the presence of white powdery waxy substances all over its body. They are seen in clusters on the stem, petiole and leaf, particularly on the ventral side. Infestation is very high during warm and dry periods. Females are slightly yellow, measuring approximately 2.2 mm long and 1.4 mm wide, wingless and can move by crawling or through air currents. A series of very short waxy filaments are seen over its body. Males are winged and can fly, but do not feed. Adult and nymph suck juice from their host plant.

**Biology:** Female lays 100-600 eggs in a cluster which are greenish yellow in colour. Egg laying completes over a period of one to two weeks and hatching occurs in about 5-10 days. On hatching the crawlers come out and move around in search



of suitable feeding sites in sheltered areas. The young stages are very minute and often go unnoticed, but they are highly infective. Life cycle completes in about one month. Adult females live for about 30 days.

**Host:** It is a polyphagous pest and has been recorded in over 55 host plants. Some of them are papaya, cassava, mulberry, hibiscus, citrus, cotton, tomato, eggplant, pepper, beans, peas, sweet potato, mango, cherry, pomegranate, rubber etc.

**Damage:** It feeds on the sap of plants and injects a toxic substance into its host, resulting in chlorosis (yellowing), plant stunting, leaf deformation, early leaf drop etc. They produce honeydew and this sticky layer is a perfect growth medium for a black



fungus commonly known as sooty mold, that cover the entire leaf and reduce the light available for photosynthesis. This will adversely affect the tuber yield. Mealybug feeding is restricted to the aerial part of the plant only.

**Spread of infestation:** This is achieved through planting materials, wind, water, rain, clothing, vehicle etc. Passive transport of the pest is also possible through the field equipment, animals or people moving during field operations. Persons who enter in the mealybug infested field will be unknowingly carrying scores of crawlers through their dress and other exposed body parts. Since their size is too small to identify by naked eye, they often go unnoticed and may contaminate when the same person enters into uninfested field. Under



favourable environmental conditions mealybug can build up huge numbers in a very short time and cause considerable damage to its host.



**Management:** Select pest free setts for planting. Burn the severely infested plants. Use a mixture of neem oil and soap solution for spraying.

#### **Preparation of spraying solution:**

- Add 20 ml of neem oil and 5 ml of soap solution in a plastic bucket and make up to one litre. Vigorously shake the solution till it looks milky white with foam. Dip the setts of cassava for 5 minutes in this solution, so larval stages of the mealybugs will be washed off and killed.
- Spray the same solution in mealybug infested field also. Nozzle of the spray should be turned towards the lower side of the leaf and ensure full coverage