

**RESEARCH AND
DEVELOPMENT DIVISION
CROP AND PLANT PROTECTION**

**Management of the
Ensign Scale, *Orthezia insignis*
:A Community Approach**



INTRODUCTION

The ensign scale is a pest of many ornamentals island wide including croton, bougainvillea, poinsettia, and lantana, to name a few. The extensive feeding by the pest results in unthrifty plants, defoliation and the eventual death of infested plants (Figure 1 above & 2). The females and young (crawlers) are commonly found on the underside of leaves along with the presence of black sooty mould.

The females (Figure 3) possess a long waxy egg sac that protrudes from behind the insect.



Figure 2: Croton highly infested with ensign scale



Figure 3: Females ensign scale

Unlike the females, the males are grey in colour and possess wings with long white fringe on the posterior end. In flight, the males are a nuisance and are often referred to, as “whiteflies”. They are not true whiteflies but are actually scale insects (Figure 4).

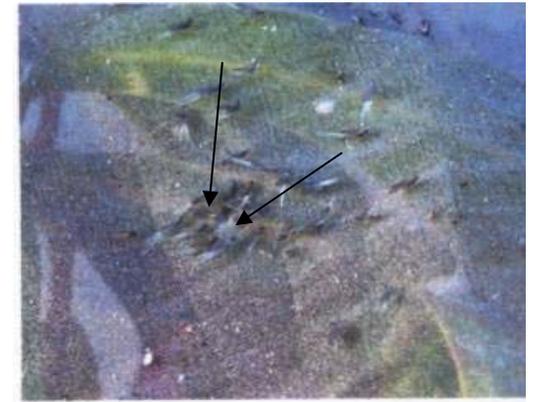


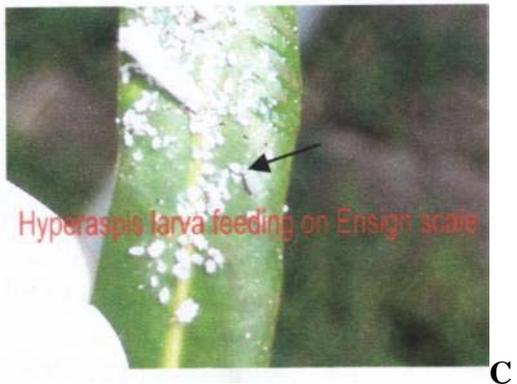
Figure 4: Males of Ensign Scale (Not whiteflies)

MANAGEMENT STRATEGIES

Biological Control:

The use of naturally occurring insects that are predators of the pest have long been recorded to be the best method to manage the ensign scale. In addition, it is environmentally friendly, cost effective and sustainable. A predator ladybird beetle *Hyperaspis pantherina* is one such insect, which has been successfully used in controlling the pest in other countries. Present efforts continue to source funding for acquiring this beetle.

There are a number of natural enemies that have been observed locally feeding on the ensign scale including many ladybird beetles (Figures 5 A, B, C) and the green lacewing. In designing any management approach, conservation of these natural enemies must be considered.



Figures 5 A, B, C: Local Predators of Ensign Scale

Cultural Practices:

- 1) Use Clean Plants: Remove all infestation by careful inspection of plant parts and then remove by wiping or washing in soap water before planting.
- 2) Replace susceptible plant species with tolerant ones.
- 3) Pruning: Prune infested plants and bury or burn parts removed.
- 4) Remove infested fallen plant material then bury or sunburn in a garbage bag.

Use of Insecticides:

Over the years, the use of many non-selective insecticides has resulted in the fall in population of many local natural enemies. In addition, many untreated homes become the source of reinfestation to neighbouring homes that have been vigilant in trying to manage the pest. It is for this reason a community approach is being recommended through any existing neighbourhood watch, church group etc. Recommended insecticides can be purchased and an operator(s) contracted for the job, which can be organized on a cost-sharing basis. The benefits of this approach includes,

- 1) The reduction of cost per individual.
- 2) Reducing the likelihood of reinfestation from untreated plants.
- 3) Promote control by a growing natural enemy population.
- 4) Sooty mould will be controlled once the population of the ensign scale is achieved.
- 5) Increased community relations.

- 6) Reduced risk to human health.

Based on experience to date two insecticides have been identified that control the ensign scale and has limited effect on the natural enemies present. These are imidacloprid (Admire®) and thiamethoxam (Actara®), which may be applied to the foliage (at one teaspoon/gallon and 1g/L respectively) as well as to the soil (at twice the foliage rates). Both these chemicals are systemic and are classified as reduced risk insecticides. The local market price for these two insecticides are expensive when compared to other insecticides, however if a community approach is employed this cost is minimised.

Additional Recommendations:

- 1) Monitor plants regularly to detect early infestations.
- 2) Prune heavy infestations before application of treatments.
- 3) Use foliar treatment with soap solutions (3 tablespoons per gallon or 1g/L) prior to insecticide treatment.
- 4) Use a surfactant (sticker) in order to increase effectiveness of the insecticides.
- 5) Apply treatments in the early morning or evening and when it is calm.

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