



EAG TALK

This week's article will focus on some aspects of the management of the disease. Modern agriculture has created several disciplines which specialise in plant diseases and pests – notably those of plant pathology (the study of plant diseases) and entomology (the study of insects and related organisms). The modern approach to pest and disease management is known as Integrated Pest Management (IPM). IPM requires a thorough understanding of the affected (host) plant, the pest, and quite often, the vector (where the disease organism is carried to the host by a third agent). Diseases caused by micro-organisms, such as viruses, and – as in the case of Palm Lethal Yellowing disease (PLYD) - phytoplasmas, are often carried to the plant by insect vectors like the Planthopper *Myndus crudus*. This makes understanding the disease considerably more complicated. Additional factors include the general and micro environments encountered by all three components – host, pest and vector. Successful management of a vector transmitted disease will usually require

attention to the management of all three components.

Host resistance is often the first and most effective way of managing a disease. This involves finding (or breeding) types of the plant that are not affected by the disease. In the case of PLYD, during the 1970s, Jamaican plant breeders at the Coconut Industry Board (CIB) had crossed two coconut varieties to produce a new type which showed considerable resistance. These were used to replace trees killed by PLYD in its early assault on the coconut industry in Jamaica. These varieties were subsequently exported to Florida – mostly as ornamentals, as Florida does not produce coconut water or copra (dried coconut meat). Unfortunately, in the new wave of the PLYD now being experienced, it appears that this resistance has been severely weakened – perhaps by a variant of the phytoplasma, so new resistance will have to be found elsewhere.

We know that most indigenous palm species are resistant to PLYD, but it is the palms introduced from outside the region that are

Lethal yellowing – Part 2: Managing the disease



frequently susceptible. Ornamental palms are widely used in horticulture – many of which are imported species. These therefore provide a very fertile field for the spread and multiplication of the phytoplasma. In managing the disease properly, these sources of infection need to be recognised and removed in a co-ordinated replanting programme. For too long, our local landscapers and horticulturalists have been mesmerised by the unrelenting promotion of imported ornamentals by the Florida based nurseries and horticulturalists. A rethink will be needed now.

Another aspect of the disease is the role of the vector – the planthopper. Here we know very little. Did Antigua have *Myndus crudus* before PLYD became established here or was it accidentally introduced? Are native planthoppers capable of transmitting the disease? We do not appear to be even asking these

questions. Do we have any trained Antiguan entomologists to provide the answers? How can we expect to manage plant pests well, if these specialists are missing?

We are told that juvenile stages of *M crudus* like to feed on St Augustine and Devils grasses but have any studies been started on what grasses or other herbaceous vegetation exists where there are heavy infestations of PLYD in Antigua.

In applying the principles of IPM, interventions with chemicals are a last resort, where other combined management options are inadequate. Moreover, they must be compatible with these other management strategies. It would appear that we have much work to do to fully understand the dynamics of this disease and to introduce a well-researched IPM approach for its management. Are we paying the price for ignoring agricultural science?

WALK-A-THON

The Freetown Village Reunion 2013 will be having a walk-a-thon on October 27 from Freetown to Potworks Dam, starting 4:30 am from the Country Pond. Proceeds are in aid of next year's reunion.

CALLING ALL COMMUNITY PLAYERS

All members of Antigua Community Players are reminded that the choir rehearsals are every Monday at the usual meeting place.

APUA MAINTENANCE WORK

The APUA Electricity Business Unit wishes to advise the general public that it has commenced maintenance work to clear power lines from overgrown trees and shrubs. This will be an ongoing process. Persons noticing trees which pose a threat to any electrical lines are asked to call 311 and make a report.