

# Ministry of Agriculture



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## MINISTRY OF AGRICULTURE

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## Pre - Easter lunch for Staff

The Ministry held a pre-Easter lunch with all the staff on April 18th. The purpose of this get together was to present our new TAV uniform and mix and mingle for all staff. It was an informal occasion which started off with a photo shoot of all the staff within the Ministry, with our new Head of Ministry Mrs Temarama Anguna. The formality began upon arrival of the Minister of Agriculture Hon. Mrs Rose Brown and her Chief Executive Officer Mr Bob Williams. Both were welcomed by the HoM. The Minister addressed her gratitude to the new HoM for her great work in getting a new face lift for the office. Furthermore she reminded the staff to keep

safe during the long weekend. The HoM was next to address all staff and she highlighted what the Ministry has accomplished during her six months in office. Office renovations and refurbishment was done with a more spacious work stations and good ventilation flow. Temarama also stresses the need for a healthy work environment for the staff. Lastly, she firmly emphasized that she won't hesitate to let go of any staff who breached the Ministry's code of conduct. It was an enjoyable day where staff mix and mingle with each other with a lot of food and laughter. Staff are already looking forward to the next gathering.



# Banana Collection Expedition

The banana collecting expedition took place in Cook Islands on the islands of Rarotonga and Aitutaki. A team of two visiting scientists, Julie Sardos and Gabriel Sachter-Smith, from Bioversity International arrived in Rarotonga on the morning of May 19<sup>th</sup> '2019. The objective of the mission is to:

1. Safeguard the diversity of Banana encountered in the Cook Islands by collecting cultivated bananas in the form of suckers and leaf tissue.
2. Investigate the possibility to have the copy of the material maintained on site by different means, notably through community garden.

Seven accessions were collected from mainly the valleys and interior areas of Rarotonga. The accessions were identified using letter and number codes: COOK001 to COOK007. Six of the seven accessions were Fe'i bananas which is identified locally as either Utu or Ve'i. These bananas are relatively rare, rich in pro-vitamin

A and are typical to the Islands of the Pacific.

Monday May 27<sup>th</sup> the experts flew to Aitutaki together with William Wigmore and Teariki Turua from the Ministry of Agriculture. On Aitutaki including three Maoli's, two Horn Plantain and one Fe'i. The team flew back to Rarotonga on Thursday May 23<sup>rd</sup>. While the team was on Aitutaki, four new accessions were collected by Mr. Nga Maireroa on Rarotonga including two Popou'lu and an ABB-like tetraploid. A fourth Maoli was also received by air from the island of Mangaia. This Maoli banana from Mangaia may have been introduced from Aitutaki some 40-years ago by a government employee who had spent a few years working at the Aitutaki Island Administration.

In total, the team collected 18 accessions that were sent in two batches to the ITC. The two boxes were received successfully by the ITC team and processed for tissue culturing within the two days of receiving the materials. Fresh leaf samples also arrived in good condition to the MGC and were immediately processed for

flow cytometry. They are currently being genotyped with SSR markers.

## Common Non-Collected



Varieties of Bananas collected in the Cook Islands.



Agriculture team along with the 2 scientist and a local member collecting Utu Banana samples on Rarotonga.



# Ministry's in house staff training

On May 22, the Ministry conducted an in-house training for staff in the area of report writing. The training was lead and conducted by Policy and Projects Director, Takili Tairi and participants from all divisions within the ministry. Total in attendance was 11, with 10 Agriculture staff and 1 from Aitutaki Agriculture department. The purpose of the training is to upskill and develop staff in this area as it is required of the nature of their work. The content was simple and very informative. Examples used were based on work carried out by individuals which made it more lively and fun. This is one of the many in house training, the Ministry envision for all staff.



Policy & Project director Takili Tairi conducting the training.



Participation from each division within the ministry.

## National Environment Week 2019



Ministry of Agriculture entomologist pictured with her displays at the environment week.

The Ministry of Agriculture was participating in the **"National Environment Week"**. The annual event was held downtown Avarua 5th-6<sup>th</sup> June 2019.

The aim of this year's display was to raise awareness of the ministries effort to protect our fruits and vegetables from destructive foreign fruit flies. Almost 30 years ago a fruit fly surveillance programme within the Pacific region was lounged under the umbrella of the Secretariat of the Pacific Community (SPC), based in Fiji. The Cook Islands was one of the pioneering countries and has its fruit fly trapping system in place ever since.

Guided by the ministries entomologist new recruited biosecurity officers are trained to

identify flies caught in the traps set up at ports of entry (harbour & airport), at major tourist resorts and scattered fruit tree plantations around Rarotonga. There are a total of 22 trapping sites on Rarotonga which are inspected every fortnight.

Six years ago Oriental fruit flies (*Bactrocera dorsalis*) were detected in a surveillance trap in Tupapa, This fly is one of the world's most serious pest species able to attack over 100 different fruits and vegetables.

Following emergency procedures it was revealed that the pest arrived on Aitutaki first, before spreading to Rarotonga. The flies are believed to have arrived in fruits carried by the seven traditional canoes arriving from Tahiti

months prior to their discovery.

Due the early detection Agriculture staff managed to eradicate the pest from both islands with the support of other public service agencies at a cost of over NZ\$ ¼ million. The display of the ministry attracted many school children and tourists from New Zealand and Australia keen to learn more about the threat recently experienced by their own countries.

The Agriculture department will continue the surveillance programme on Rarotonga and the Pa Enua for the early detection of destructive fruit fly species.

# Sudden death of Nono trees not due to foul play

Nono or noni juice from organically grown *Morinda citrifolia* fruits in the Cook Islands is in high demand due to its scientifically proven health benefits.

Several months after planting a new plot with nono a farmer requested the assistants of the ministries entomologist because several of his trees died suddenly. The young trees turned yellow within a short time, lost all their leaves with fruits dropping on the ground.

The grower was suspicious that somebody might have poisoned his plants on purpose with herbicides as surrounding plantations were not affected.

Upon close inspection of dying and dead trees it was discovered that the roots of the nono trees showed typical symptoms of root knot nematodes.

Nematodes are microscopic small, eel-like worms attacking the roots of over 300 different host plants. Infested roots are full of small round lumps (knots) resembling pearls on a string. Plants attacked by root knot nematodes die from lack

of water, lack of nutrition's and secondary infections of the roots with fungi and bacteria.

There are limited methods to control the pest as the worms can remain dormant in the soil for many years. It is recommended to ensure that nematode free, potted plants or cuttings are used for planting.

The application of chicken manure is recommended to deter the pest and nourish the plant. The application of organically approved foliar sprays e.g. Nitrosol or Plasma can strengthen plants to withstand an attack by nematodes.

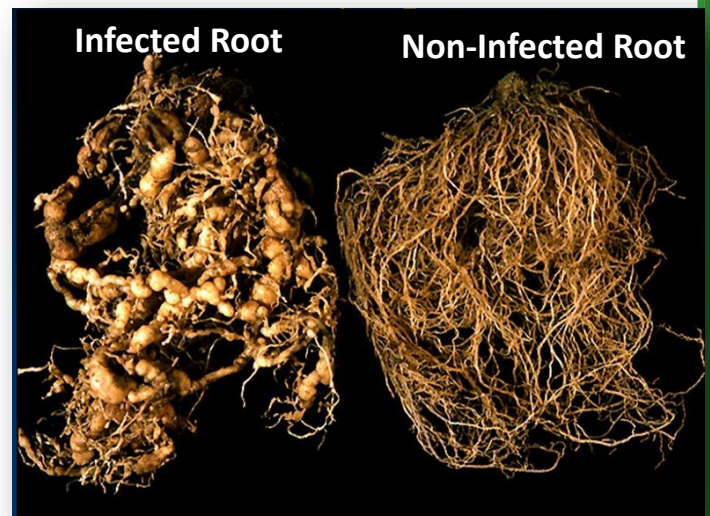
Both, the farmer and the agriculture staff were relieved to find a natural cause of the dying plants, despite the discovery of the pest.



Healthy Nono plant found on the plot where some has been infected.



Nono tree that's been infected with "Root knot nematodes"





## **Billionaire- Sir James Arthur Ratcliffe visits Rarotonga and Aitutaki.**

On the 5<sup>th</sup> April, Sir James Arthur Ratcliffe, a British billionaire visited the Cook Islands on his highly priced Gulfstream G650 private jet. The aircraft touched down briefly in Rarotonga ex Isla de Pascua- Easter Island to carry out clearance procedures before continuing onto Aitutaki. People onboard the aircraft consisted of the owner, Sir Ratcliffe and two colleagues alongside three aircraft crew.

As per normal Biosecurity Procedures, the aircraft and crew were subject to biosecurity operational procedures. The aircraft crew had already carried out the required Top of Descent spray. All relevant documents were checked as well as inspection of their food compartments for biosecurity risks items. The aircraft was granted clearance and continued onto Aitutaki as per its itinerary.

According to Sir Ratcliffe, the visit to Aitutaki with his two friends is to try and catch the “ghosts of the flats”, the elusive indo-pacific bonefish. Aitutaki is renowned for being home to the All Tackle World Record Bonefish, hence the reason for the visit by Sir Ratcliffe and his friends. Happy Fishing!!

The aircraft continued its journey to Port Villa, Vanuatu after a couple of days fishing in Aitutaki.



Sir James Arthur Ratcliffe is a British billionaire chemical engineer turned financier and industrialist. Ratcliffe is the chairman and chief executive officer of the Ineos chemicals group, which he founded in 1998 and of which he still owns two-thirds, and which has been estimated to have a turnover of \$80 billion.

## **Mangaia Biosecurity Awareness and Capacity Building.**

Members of the Biosecurity Division conducted a visit to the island of Mangaia as part of an ongoing capacity building program for the Pa Enua. The team consisted of the Director- Mr Ngatoko Ngatoko and Senior Biosecurity Officer Mr Piri Maa. The main purpose of the visit were to:

- ⇒ Conduct a biosecurity awareness workshop for the Mangaia Community
- ⇒ Capacity Building for the Biosecurity Officers regarding the Biosecurity Act 2008 and the Manual of Operating Procedures

The visit initially commenced with a meeting with the distinguished leaders of the island in regards to the purpose of the visit by the team. The meeting included the mayor, executive officers, council leaders, members of parliament, district leaders and the department staff. The awareness workshop started with opening remarks by the Mayor followed

by an address from the Director of Biosecurity- Mr Ngatoko Ngatoko. Presentations started with a brief overview of the Cook Islands NSDP and how biosecurity activities align to the Goal 10. Following on from this, a presentation of border activities here in Rarotonga was delivered for the participants to give them an overview about the magnitude of biosecurity related activities happening here



in Rarotonga. A presentation of major pests and diseases not present in the Cook Islands was also presented to highlight the importance and destructiveness of these pests and diseases.

The event ended with a presentation and discussion of the Cook Islands “Early Detection and Rapid Response Plan”. The

plan is designed to prepare us in regards to roles and responsibilities and to improve readiness in the event a pest incursion occurs or to able to detect an incursion event early.

A staff training was also conducted on the Biosecurity Act 2008 and Manual Of Operational Procedures to enhance staff knowledge in regards to powers of biosecurity officers and other major provisions of the act. This was also an opportunity for Mangaia biosecurity officers to discuss and share their experiences on biosecurity related matters at the airport and seaport during operations. They shared their views on the movement of plant materials from Rarotonga to the Pa Enua and amongst Pa Enua and the challenges that they face. They also highlighted issues on the movement of live animals such as pigs and goats

The week concluded with the presentation of the Warrant of appointment for the eight Biosecurity Officers. Overall- the visit was a success due to the full support by all distinguished leaders of the island and the people of Mangaia as a whole in ensuring their paradise is protected from any future pest or disease incursion.

## **Biosecurity Awareness and Capacity Building in Atiu**

Members of the Biosecurity Division conducted a visit to the Island of Atiu as part of a Biosecurity Awareness and Capacity Program for the Southern Group Islands. The team consisted of the Director- Mr Ngatoko Ngatoko, Deputy Director - Mr Pavai Taramai and Snr Biosecurity Officer – Piri Maa.

The main purpose of the visit were to : carry out a biosecurity awareness workshop for the Atiu community and also to warrant two biosecurity officers. The awareness workshop was held at the Mapumai Community Hall. Over 30 participants from various sectors attended the workshop.



The event begun with formal address by the Mayor- Ina Mokoroa, Hon Minister of Agriculture Rose Toki Brown and the Director Of Biosecurity Mr Ngatoko Ngatoko. Followed by the presentation of the Warrant of Appointment for the two newly appointed Biosecurity Officers, namely, Mr Teata Bob and Mr Teatai Mokoroa by the Hon. Minister Of Agriculture- Rose Toki Brown.

The Mayor Ina Mokoroa, took the opportunity to congratulate the two newly appointed biosecurity officers on the importance of their roles. He also highlighted to the community members on the importance of their contribution in helping to protect Atius Border from any future pest or disease incursions.

The formal part of the workshop resumed with presentations about major focus areas of Biosecurity.

## **Aitutaki-Handover of Biosecurity Equipment, Warrant of Appointment Ceremony and Invasive Ant Surveillance.**

On the 18<sup>th</sup> March, Director of Biosecurity- Mr Ngatoko Ngatoko, Deputy Director- Mr Pavai Taramai and Snr Biosecurity Officer Piriiriki Maa conducted a visit to the island of Aitutaki as part of an ongoing capacity building program. The main purpose of the visit is : Handover of Biosecurity Equipment and also awarding two biosecurity staff with their warrant of appointment to perform biosecurity duties in accordance to the Biosecurity Act 2008.

Following on from the program, the first ever Invasive Ant Surveillance for Aitutaki was carried out at the Arutanga wharf. The Arutanga Wharf was chosen as the surveillance area as this is the main port of entry for all types of sea crafts. The week concluded with inspections for incoming commercial and personal cargo via the container vessel.



**Biosecurity Officer Ant surveillance in Aitutaki**