THE COCONUT SHOP

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78th

Annual Report

of the

Coconut Industry Board

for year ended December 31, 2019

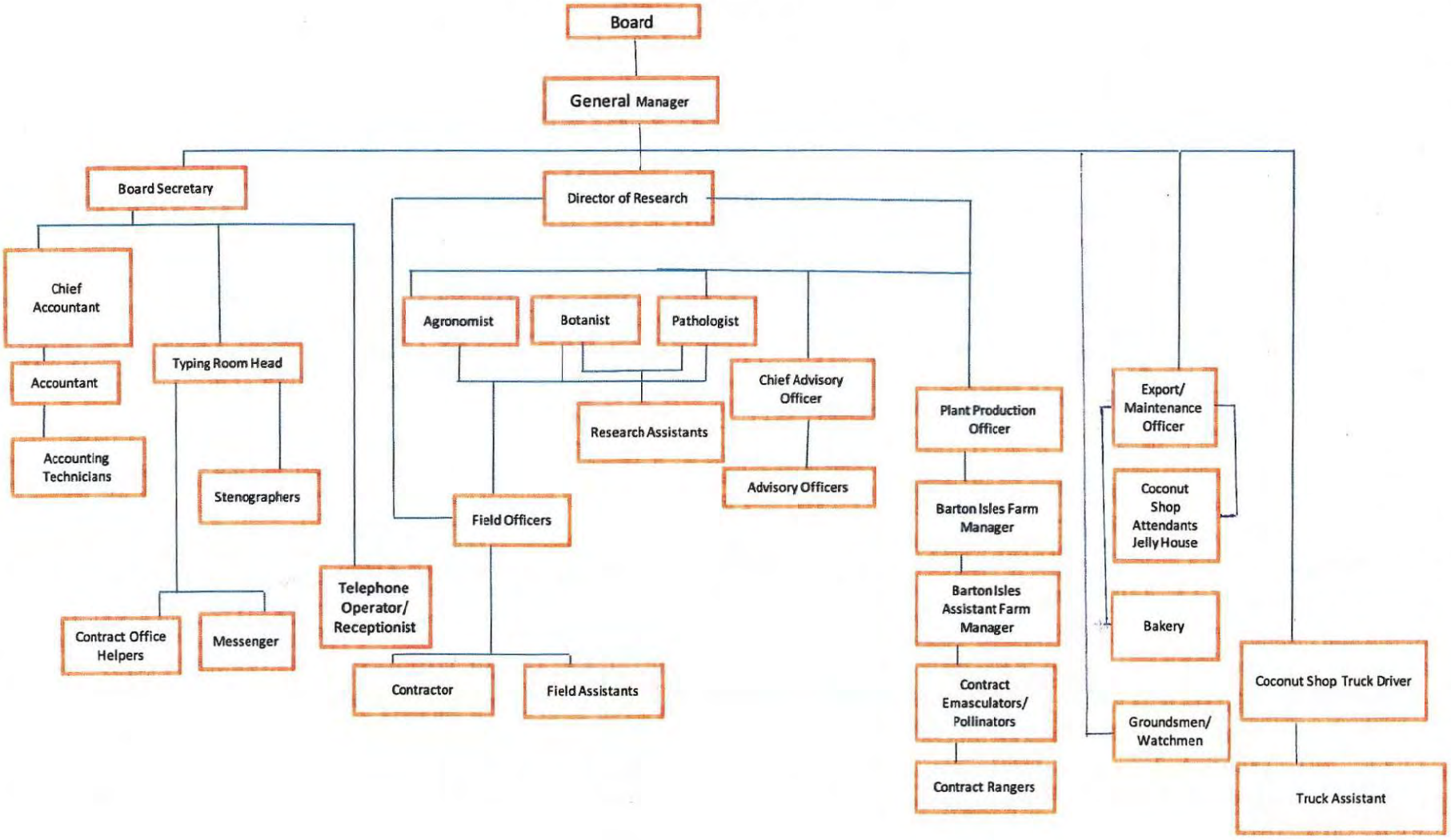
MISSION

To promote the interest of the Jamaican coconut industry and its stakeholders, by encouraging and facilitating the efficient production of coconuts, providing ongoing research support and developing marketing opportunities, locally and globally, in order to attain a profitable and sustainable industry.

VISION

To lead, facilitate and co-ordinate a vibrant and efficient coconut industry which will improve the socio-economic conditions of the coconut growers, processors, traders and other stakeholders who rely on the crop for a livelihood.

COCONUT INDUSTRY BOARD
ORGANIZATION CHART



Presented to
The Minister of Industry, Commerce, Agriculture and Fisheries
in pursuance of Section 27
of the Coconut Industry Control Act

COMPOSITION OF BOARD FOR YEAR 2019

MEMBERS

Nominated:	Mr. C. Gentles - Chairman Mr. H. Davis Dr. C. Douglas Mr. H. Gentles
Elected:	Mr. S. Black Mrs. S. Ennis Mr. N. A. Jones Hon. F. M. Phipps, Q.C., O.J. Hon. A. A. Pottinger, C.D.

OFFICERS

General Manager:	Miss Y. E. Burns
Corporate Secretary:	Mrs. A. J. Chung-Campbell (January to March 2019) Miss N. M. Blackwood (June 2019)
Director of Research:	Dr. M. M. Wallace
Bankers:	National Commercial Bank Jamaica Limited
Auditors:	PricewaterhouseCoopers

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THE COCONUT INDUSTRY BOARD

INTRODUCTION

The Coconut Industry Board was established under the Coconut Industry Control Act, Cap. 62, enacted in 1945 and consists of nine members, four of whom including the Chairman, are appointed by the Minister of Industry, Commerce, Agriculture and Fisheries. The remaining five members are elected by registered coconut growers who must themselves be registered coconut growers or the attorneys for such registered coconut growers or the managing directors or managers of companies that are registered coconut growers.

The Board promotes the interests and efficiency of the coconut industry and encourages the production of coconuts.

Allied functions are:

(a) Keeping the Government informed on the state of the industry and advising Government when any action is necessary.

(b) Arranging insurance of coconut trees against damage by windstorm.

(c) Assisting growers to market their crop.

(d) Carrying out research on the agricultural problems of the industry and advising growers on mitigation of their agricultural challenges.

REPORT ON THE OPERATIONS OF THE COCONUT INDUSTRY BOARD CALENDAR YEAR 2019

1. BOARD MEMBERSHIP

There were two vacancies among the elected members of the Board during the Year 2019, as Mr. Stephen Black of St. Thomas and the Hon. Frank. M. Phipps, Q.C. of St. Mary, the growers' representatives, who were scheduled to retire, were re-elected unopposed.

There were 20 Board and Committee meetings during the year and attendance of members was as follows:

BOARD MEMBERS	ATTENDANCE			
	Possible	Actual		III/On Leave
		Board	Committee	
Mr. C. Gentles	18	10	8	-
Mr. S. Black	17	9	6	2
Mr. H. Davis	14	6	4	4
Dr. C. Douglas	18	8	8	2
Mrs. S. Ennis	18	9	8	1
Mr. H. Gentles	15	9	5	1
Hon. F. M. Phipps, Q.C.,O.J.	15	9	5	1
Hon. A. A. Pottinger, C.D.	20	10	10	-
Mr. N. Jones	17	6	7	4

2. PROFILE OF THE LOCAL COCONUT INDUSTRY

The number of hectares in coconuts as at 31 December, 2019 was calculated as 16,542 (31/12/18 – 16,371); the number of hectares in bearing coconuts was calculated as 16,136 (31/12/18 – 15,920).

At 31 December 2019, the total population of coconut trees was calculated as 3,659,993 (31/12/18 - 3,636,711).

The number of farmers registered with the Board was as follows:

Year	No. of Farmers
2019	609
2018	646
2017	694
2016	664
2015	697

The majority of coconut farms was smaller than 10 hectares; coconut is essentially a small holder's crop.

3. PRODUCTION AND DISPOSAL

(i) Production

Coconut production during the year was calculated as 129.4 million nuts (Year 2018 adjusted due to drought conditions – 126.3 million nuts). The value of the Year 2019 production at the average price paid by the Board for Maypan and Malayan Dwarf jelly coconuts during the year, ($45.00 per nut) was $5.82 billion.

Coconut production during the year was again adversely affected by lack of fertilizer, improper agronomic practices, and additional deaths of bearing coconut trees from lethal yellowing and other diseases.

(ii) Disposal

The major portion of the Year 2019 production was disposed of through bottlers of jelly coconut water, the Coconut Industry Board, higglers, producers of coconut oil, and supermarkets.

The portion of the crop which was disposed of to and through the channels of the Board during five years ended December 31, 2019, was as follows:

	N	U	T	S		
	2019 '000	2018 '000	2017 '000	2016 '000	2015 '000	TOTAL '000
St. Andrew	1	1	2	1	1	6
St. Elizabeth	133	178	157	173	103	744
St. Thomas	29	29	33	45	137	273
Portland	61	10	29	56	54	210
St. Mary	444	785	667	467	651	3014
St. Catherine	144	145	116	322	135	862
	812	**1,148**	**1,004**	**1,064**	**1,081**	**5,109**

4. THE COCONUT SHOP

The Board purchased 661,845 jelly coconuts at a cost of $35,202,040 during the year (926,033 at a cost of $50,962,685 in Year 2018), for sale in its Coconut Shop at 18 Waterloo Road, Kingston 10.

This shop continued to be a significant market for the purchase/sale of growers' coconuts.

5. EXPORT

During the year, the Board exported seed coconuts to Florida in the United States of America.

The total number of seed coconuts exported during the Year 2019 was 6,000 at a F.O.B. value of US$19,500; as a result of the drought conditions, the Board restricted the export of seed coconuts.

Export of seed coconuts during the five years ended 31 December, 2019, was as follows:

Year	Number Exported	F.O.B. Value (US$)
2019	6,000	19,500
2018	60,000	183,000
2017	42,500	135,500
2016	33,000	108,500
2015	47,850	149,100
	189,350	595,600

6. DISTRIBUTION OF SEEDLINGS

Distribution of coconut seedlings was as follows:

	2019	2018
Old Planting Programme	19,045	38,316
New Planting Programme	19,890	21,540
Sales	3,571	5,377
Donations and Field Experiments	1,537	2,762
Replanting – the Board's Seed Gardens	60	-
Agricultural Shows & Experiments	-	425
Lethal Yellowing Tree Felling Programme	650	675
	44,753	69,095

At the Board's hybrid seed garden at Barton Isles, St. Elizabeth, a total of 147,270 Maypans and Malayan Dwarfs was produced in the Year 2019 (Year 2018 – 194,030). A total of 8,623 Malayan Dwarfs was produced at Esher Seed Garden in St. Mary.

In addition, the Board continued to encourage farmers to plant coconut seedlings under the two planting programmes. Under the Old Planting Programme, weed control grant and fertilizer for 80% of the seedlings planted, the percentage which is expected to survive, are given free of cost to qualified farmers.

The old programme covers St. Thomas, Portland, St. Mary, St. Ann and St. Catherine, the traditional coconut growing areas.

Planting under the New Planting Programme which covers the non-traditional coconut growing areas, the western region of the island, also continued during the year.

To qualify under the programmes, a farmer must be registered with the Board and must have land which can accommodate at least 125 coconut seedlings. The demand for seedlings exceeded the supply in the Year 2019.

A total of 44,753 coconut seedlings at a cost of $6.4M, fertilizer and weed grant valued at $5.0M were distributed to coconut farmers under the two planting programmes for the Year 2019.

7. WINDSTORM INSURANCE FUND

(i) Liability

The Fund continued to indemnify coconut growers against loss of bearing coconut trees to windstorm.

The liability for windstorm insurance damage during Year 2019 was $77,770,171 (Year 2018 - $76,042,782); the maximum coverage per tree remained at $1,000.

The finances of the Windstorm Insurance Fund are kept separately from the funds of the Board and are treated as Trustee Funds.

(ii) **Automatic Insurance and Voting Rights**

Coconut growers are again being reminded that they can earn automatic insurance and voting rights for the election of Board members, on coconuts sold to the Coconut Industry Board and licensed coconut dealers, including bottlers of coconut water, provided the sales are reported to the Board. We are reminding coconut growers that it is in their interest to ensure that all coconuts sold by them to the other entities, are reported to the Board.

Automatic insurance is earned at the rate of J$65 for each 110 dry or jelly coconuts sold to the entities mentioned above.

(iii) **Contractual Insurance**

Registered coconut growers can purchase contractual insurance from the Board for their properties whether or not they supply coconuts to the Board or to licensed coconut dealers.

This information is always given during the Annual Meeting of Coconut Growers and in spite of this, growers continue to express dissatisfaction after a hurricane if they do not receive benefits.

An appeal is again being made to coconut growers to make provision for insuring their coconut trees against windstorm damage, from the sale of coconuts, either by purchasing insurance or by selling their coconuts to licensed coconut dealers or the Board to earn automatic insurance. However, the amount of insurance coverage a grower is likely to earn by way of automatic insurance alone, will never be adequate.

8. RESEARCH

The Research Department continued to work towards maintenance and improvement of the coconut industry in Jamaica, through constant monitoring and review of prevailing cultural practices, available germplasm and disease control interventions.

Botany/Plant Breeding

The Botanist/Plant Breeder continued the search for high yielding, disease resistant varieties of coconut during Year 2019. Hybridization activities were conducted at Barton Isles Seed Garden in St. Elizabeth.

The following activities continued during the year:

I Monitoring the Brazil Green Dwarf and fifteen other varieties introduced from the Ivory Coast, Africa in 2009 for their potential to local coconut production

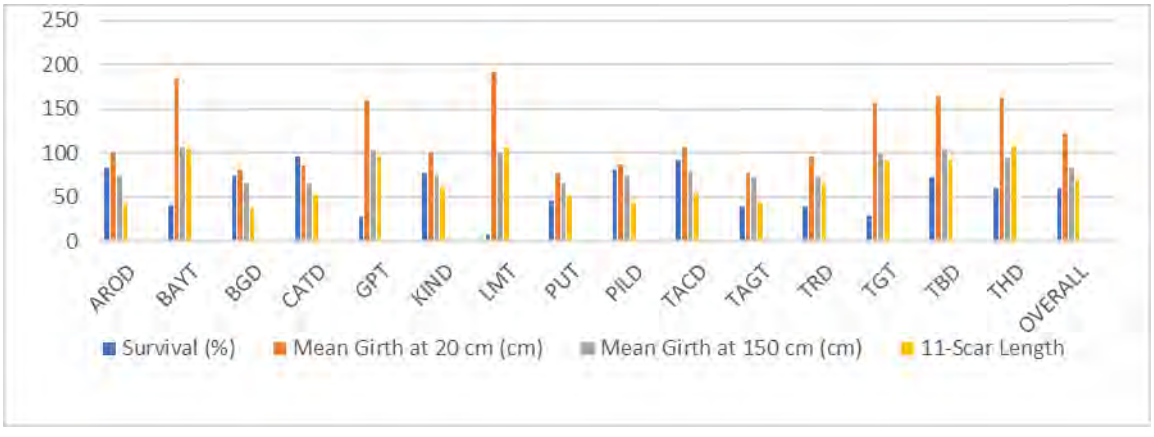
A total of seven thousand five hundred (7,500) seednuts (representing sixteen varieties) was received from the genebank in the Ivory Coast in 2009. These were planted in variety collections and have since come into bearing.

Table 1 Plantain Garden Ivory Coast Germplasm Collection introduced in Year 2009

Survival and Stem & Leaf Morphology – Year 2019

Variety	Symbol	Number Planted	Number Alive	Survival (% of Number Planted)	Mean Girth at Soil Level (cm)	Mean Girth at 150 cm (cm)	11-Scar Length (cm)
Brazil Green Dwarf	BGD	46	34	73.9	81	65	37
Catigan Green Dwarf	CATD	28	27	96.4	86	66	52
Tacunan Green Dwarf	TACD	23	21	91.3	106	78	54
Aromatic Green Dwarf	AROD	30	25	83.3	100	74	42
Thailand Green Dwarf	THD	31	19	59.4	163	94	107
Kinabalan Green Dwarf	KIND	31	24	77.4	100	76	60
Philipog Green Dwarf	PILD	29	25	80.6	87	74	44
Tahitian Red Dwarf	TRD	26	10	38.5	96	73	65
Ternate Brown Dwarf	TBD	26	19	73.1	164	105	93
Tagnanan Tall	TAGT	26	10	38.5	77	72	43
Laccadives Micro Tall	LMT	26	2	7.7	191	100	106
Tenga Tall	TGT	24	7	29.2	157	99	91
Bay Bay Tall	BAYT	27	11	40.7	184	106	105
Gazelle Peninsula Tall	GPT	26	7	26.9	160	103	96
Palu Tall	PUT	15	7	46.7	77	65	52
Overall		**414**	**248**	**59.9**	**122 +/- 42.1**	**83 +/- 15.7**	**70 +/- 26.6**

Figure 1 Plantain Garden Ivory Coast Germplasm Collection 2009 Survival and Stem & Leaf Morphology –2019

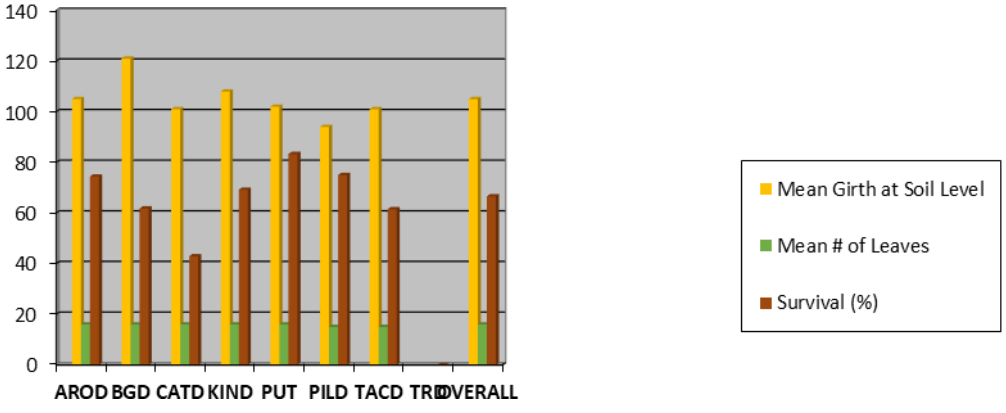


A total of 174 seedlings was obtained from Plantain Garden site and planted at Trade Winds Estate, St. Catherine in Year 2016. Immature Vegetative Data were collected at this site. [Table 2 & Fig.2]

Table 2 Trade Winds IC2009 R1 Observation Plot Immature Vegetative Data - 2019

Variety	Symbol	Number Planted	Number Alive	Survival (% of Number Planted)	Mean Girth at Soil Level (cm)	Mean Number of Leaves
Aromatic Green Dwarf	AROD	39	29	74.4	105	16
Brazil Green Dwarf	BGD	34	21	61.8	121	16
Catigan Green Dwarf	CATD	7	3	42.9	101	16
Kinabalan Green Dwarf	KIND	13	9	69.2	108	16
Palu Tall	PUT	6	5	83.3	102	16
Philipog Green Dwarf	PILD	44	33	75.0	94	15
Tacunan Green Dwarf	TACD	26	16	61.5	101	15
Tahitian Red Dwarf	TRD	5	0	0.0	-	-
Overall		**174**	**116**	**66.6**		
Mean[1]		**-**			**105**	**16**
Std. Dev.		**-**			**8.4**	**0.5**

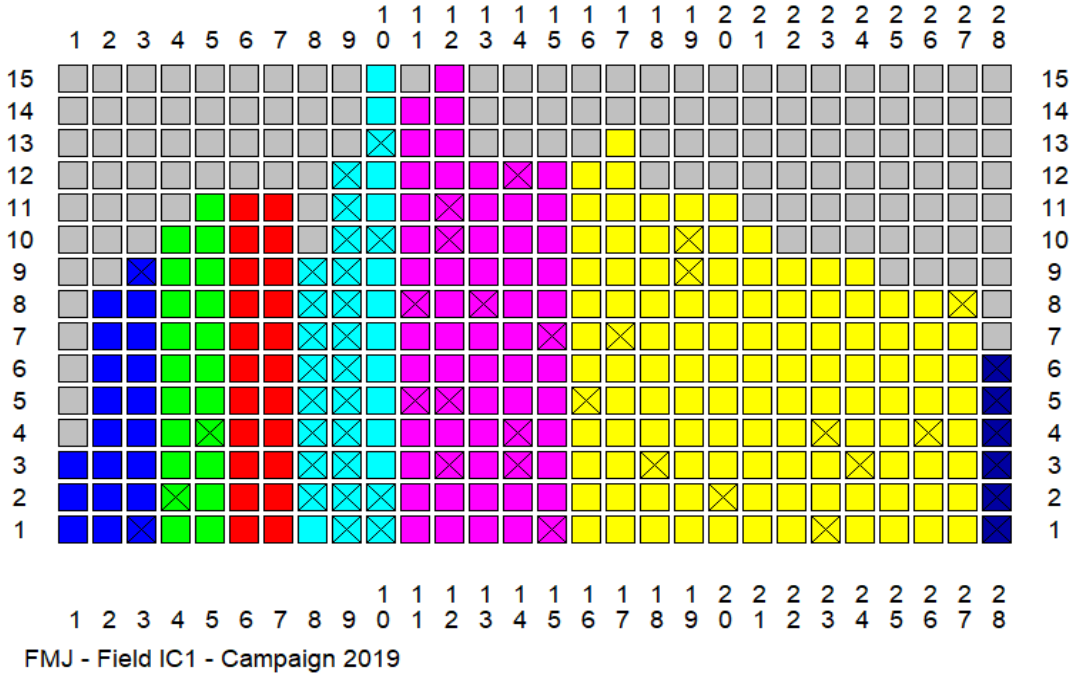
Figure 2 Trade Winds IC 2009 R1 Observation Plot Immature Vegetative Data – 2019



A total of 331 seedlings was obtained from seednuts reaped at Spring Garden, Portland, and planted out in an Observation Plot at Fred M. Jones Estates, St. Thomas in 2019. Fig. 3 refers.

[1] Excluding TRD (which did not survive)

Figure 3 IC 2009 R1 Map for Fred M. Jones Estates
Established 2019



LEGEND

Plot 1	Royal Blue	Thailand Green Dwarf (Open)	THD
Plot 2	Green	Gazelle Peninsula Tall (Open)	GPT
Plot 3	Red	Bay Bay Tall (Open)	BAYT
Plot 4	Light Blue	Tahitian Red Dwarf (Open)	TRD
Plot 5	Fuschia	Catigan Green Dwarf (Open)	CATD
Plot 6	Yellow	Kinabalan Green Dwarf	KIND
Plot 7	Navy	Ternate Brown Dwarf	TBD

II Data collection among IC 2012 Introduction at Plantain Garden

In 2012, a total of two thousand (2,000) seednuts representing three (3) varieties was imported from the genebank CNRA (Station Marc Delorme) in Ivory Coast, Africa. The consignment comprised five hundred (500) seednuts each of the Tagnanan Tall and Madang Brown Dwarf (first time introductions) as well as one thousand (1,000) seednuts of the Malayan Red Dwarf. A very low yield of seedlings was obtained. Funding for this exercise was provided under the Common Fund for Commodities (CFC) Project.

A portion of the Tagnanan Tall and all the Malayan Dwarf were planted at Spring Garden in Portland, while the remainder of the Tagnanan Tall and all the Madang Brown Dwarf were planted at Plantain Garden in St. Thomas.

Table 3 Immature Vegetative Data for IC 2012 Plot at Plantain Garden at 2019

Variety	Symbol	Number Alive	Plant Height (cm)	Mean Girth Above Soil Level (cm)
Madang Brown Dwarf	MBD	8	486 +/- 115.7	89 +/- 20.4
Tagnanan Tall	TAGT	53	537 +/- 118.1	112 +/- 37.6

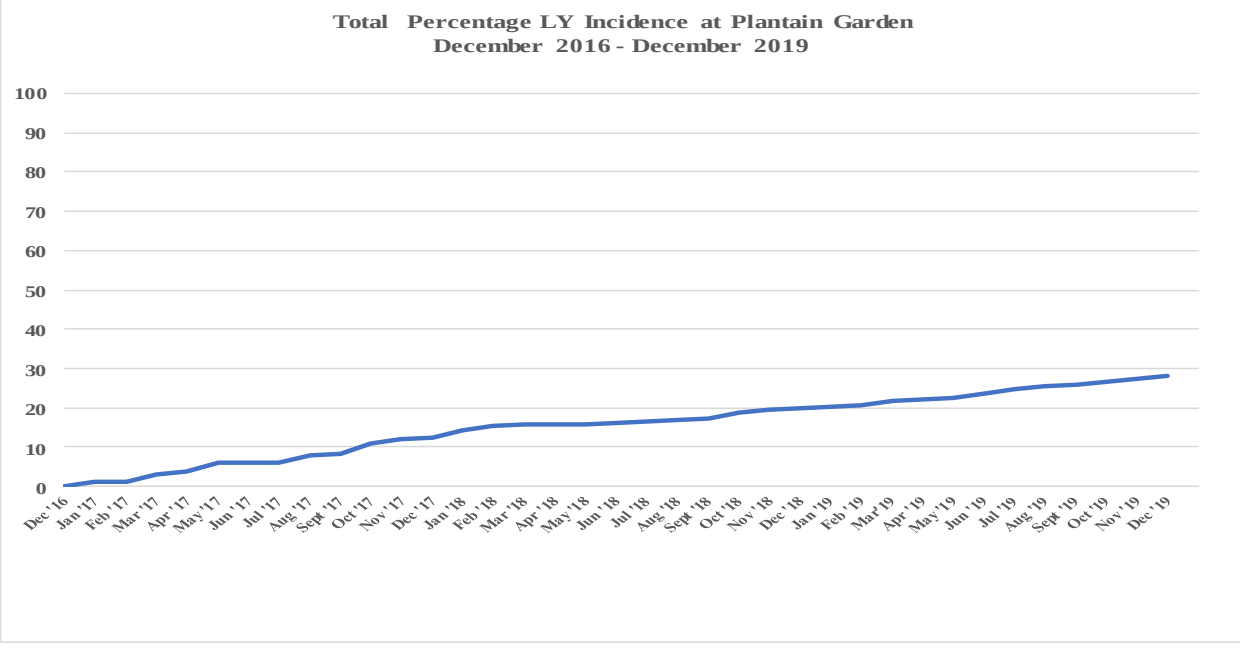
Table 4 Vegetative Data for IC 2012 Plot at Spring Garden in November 2019

Variety	Symbol	Number Alive	Plant Height (cm)	Mean Girth at 20 cm (cm)	Mean Girth at 150 cm (cm)	11-Scar Length (cm)
Tagnanan Tall	TAGT	22	436 +/- 181.5	114 +/- 40.7	53 +/- 34.0	12 +/- 3.1

III Lethal Yellowing Disease Progress at Plantain Garden Germplasm Collection

Lethal yellowing disease was first observed at Plantain Garden in late 2016. In order to save this important germplasm collection, an aggressive control programme was initiated. This included sanitation as per the "Michael Black Approach" (felling of affected palms and replanting where feasible) at the site and its environs.

IV Assessment of Tall Coconuts received from Thailand in 2014



In August 2014, a consignment of one hundred and one (101) coconuts of a Tall variety was graciously donated by the Government of Thailand. From these, a total of seventy-three seedlings was obtained. The Government of Thailand requested that a small portion of the seedlings obtained be planted in a place where they may be enjoyed by the general public. In response to this request, ten (10) seedlings were planted at Hope Royal Botanic Gardens in Kingston on April 1, 2015. The remaining seedlings were divided among sites on the Board's properties and farmers' holdings. Table 5 shows data collected in 2019.

Table 5 Immature Vegetative Data among Tall Variety from Thailand in 2019

	Spring Garden Portland	Esher St. Mary	Fettig St. Thomas	Overall
Number Planted	**20**	**10**	**20**	**50**
Number Alive	**14**	**8**	**12**	**34**
Survival (%)	**70**	**80**	**60**	**70**
Mean Girth at Soil Level (cm)	**160**	**99**	**154**	**138 +/- 27.4**
Mean Plant Height (cm)	**505**	**457**	**630**	**531 _/- 72.9**
Mean Number of Leaves	**13**	**11**	**19**	**14 +/-3.4**

V Replication exercise at Plantain Garden Field Genebank

The Field Station at Plantain Garden hosts important varieties and hybrids and represents the major Coconut Field Genebank in the Caribbean. A portion of the varieties present was obtained by replication of parental material at the now defunct Field Genebank at Fair Prospect in Portland (which was destroyed by a lethal yellowing outbreak which began in 1996).

Varieties present were collected over an extended period of time, the latest being the consignments from Ivory Coast in 2009 and 2012. Some of these are very difficult to replace as they rarely occur on an international basis. These include the Peru Tall and the Cuban Dwarf. In fact, the world's largest coconut Field Genebank in Ivory Coast (from which many of these were sourced and could be replaced) is also now itself at risk from an outbreak of lethal yellowing disease.

The replication exercise is underway at Plantain Garden. In May 2019, a total of 510 open-pollinated seedlings was distributed to Fred M. Jones Estates for field testing on an informal basis. These included 310 Sri Lanka Green Dwarf (PGD) and 200 Fiji-Malayan Orange Dwarf (FMOD).

VI Assessment of germination at the Board's nurseries

The Board operates four nurseries in the parishes of St. Thomas, St. Mary, Portland and St. Elizabeth, where coconut seedlings are produced for distribution to farmers. The monitoring of germination levels and ultimately seedling yield of Maypan seednuts from the Barton Isles Hybrid Seed Garden in St. Elizabeth has been a useful ongoing exercise.

Results for 2019

Germination of individual classes of seednuts was assessed across nurseries, as well as mean germination at each nursery and overall trend by nursery. For Maypan produced at Barton Isles, germination was 58% at Barton Isles, 44% at Spring Garden, and 38% at Orange River nurseries.

Brapan germination at Barton Isles was 54% and 46% at Plantain Garden. Malayan Dwarf showed 38% germination at Spring Garden, 44% at Plantain Garden, 30% at Orange River and 51% at Barton Isles.

The nursery at Barton Isles showed an overall germination of 54% for 2019, while at Spring Garden it was 41%, 45% at Plantain Garden and 34% at Orange River. This gives overall germination of 44 +/- 8.6%. Barton Isles, Plantain Garden and Spring Garden showed an overall increase in germination for 2019, while Orange River showed a decrease.

VII Other Activities

RADA/CTA Climate Smart Seed Project

This Project is being conducted by the Rural Agricultural Development Authority (RADA) and CTA Climate Smart. Coconut Industry Board was invited to be a stakeholder.

The broad objectives are:

- to expose, trade and showcase climate smart seed varieties, types and cultivars to the farming communities; and
- to promote cultivation and consumption of resilient indigenous/traditional crops adopting Integrated Pest Management (IPM) strategies.

There were two Workshops and a Seed Fair at Denbigh, and the Board was represented at each.

An Alternative Herbicide

A representative from AgChem Limited was invited to conduct a training seminar at the Board, using Carista, an alternative herbicide, to improve the effectiveness of herbicides for weed control and to standardize herbicide application practices.

Pathology

Lethal yellowing disease

Lethal yellowing, to date, has destroyed millions of coconut palms in the Caribbean and Latin America. Many varieties and hybrids are susceptible to the disease. In the Year 2019, research efforts focused on the validated management strategies, assessing the resistant plants against the lethal yellowing disease, vectors of the disease and transmission trials and integrated weed management strategies.

Lethal yellowing (LY) continues to be a devastating disease that affects coconut and more than 35 other palm species in the Americas. In Jamaica, LY disease remains active in the major coconut growing areas and continues to threaten the viability of the local coconut industry. The disease is destroying varieties and hybrids grown locally. However, validated management practices have been impactful in curtailing the spread of the disease and protecting the income of the coconut farmers in the coconut growing rural areas in Jamaica.

Achievements (2019)

(i) **LY management strategies to reduce the spread of the disease were promoted. These are:**

- Monitoring of field for immediate identification of LY coconut trees
- Removal of infected trees immediately
- Replacement of infected trees immediately
- Removal of alternate/alternative hosts
- Planting other susceptible palms as indicator plants in fields and around the boundary of fields.

Results (Figure 1) obtained from the above validated strategies are showing a farm with 80,000 coconut trees removing seventy-two (72) LY infected coconut palms in 2018. In 2019 fifty-one infected palms were identified and removed (Table 1).

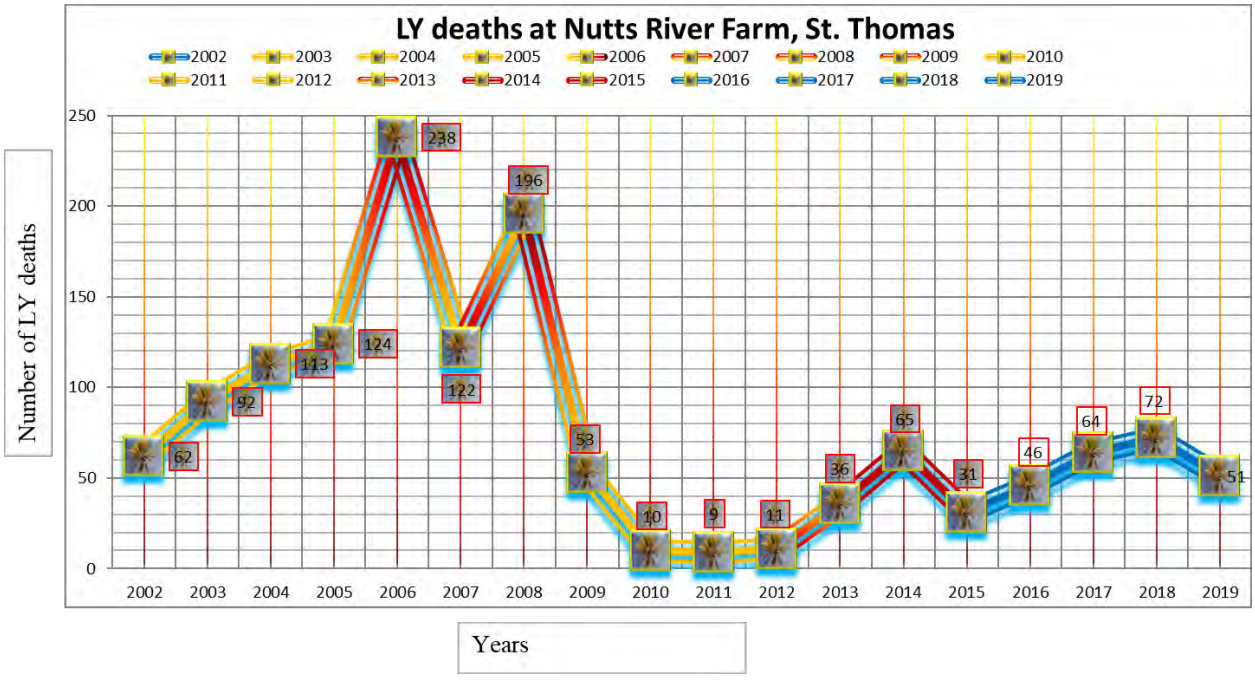


Figure 1 LY deaths at Nutts River farm from 2002 - 2019

Table 1 Monthly removal of lethal yellowing infected coconut trees at Nutts River Farm in 2018 and 2019

Months/ Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
2018	4	6	6	11	5	6	4	7	2	3	5	13	72
2019	11	4	3	3	3	4	1	11	2	3	4	2	51

(ii) **Analysis of the strategies at Nutts River Farm**

The farm was closely monitored because of its vulnerability to LY disease outbreaks. It was important to continue removing infected coconut trees immediately to reduce the potential of the disease spreading. The graph above (Figure 1) shows a comparative data of LY deaths since the Year 2002 to 2019. This data demonstrates that the LY disease management strategy saved this farm from the devastating effects of the lethal yellowing disease. From the Year 2009 to date, the farm experienced low infection of the LY disease; with the lowest being the Years 2010 to 2012 (Figure 1). The farm lost 1.5% of the original population to LY.

(iii) **Validation of the strategic method of burning or insecticidal spraying when LY trees are removed**

Generally, two methods have been used in the collection of insects. Insects were placed in tubes from aspirators and net sweeping. Leafhoppers were caught by net sweeping over the leaves of a removed coconut tree infected with LY disease at Spring Garden, Portland (Figure 4). This indicated that the coconut leaves attracted the insects even when the tree fell to the ground. Therefore, as concluded previously, LY infected trees should be sprayed with an insecticide and burnt.

Figure 4 Net sweeping over the leaves of a removed coconut tree infected with LY

(iv) **Planting several varieties and hybrids in one field**

The decrease in annual production to pests and diseases occurs because of crops grown in monocultures and cultivated variety with uniform resistance. This uniform resistance is met by the continuing evolution of new races of pests and pathogens that can overcome resistance genes, creating the phenomenon of boom and bust cycles. One of the strategies available to coconut farmers in Jamaica to reduce pests and diseases damage is their varietal diversity, together with the knowledge to manage and deploy this diversity appropriately. Figure 5 shows a strategy for reducing the spread of the lethal yellowing disease in the fields which yielded results.

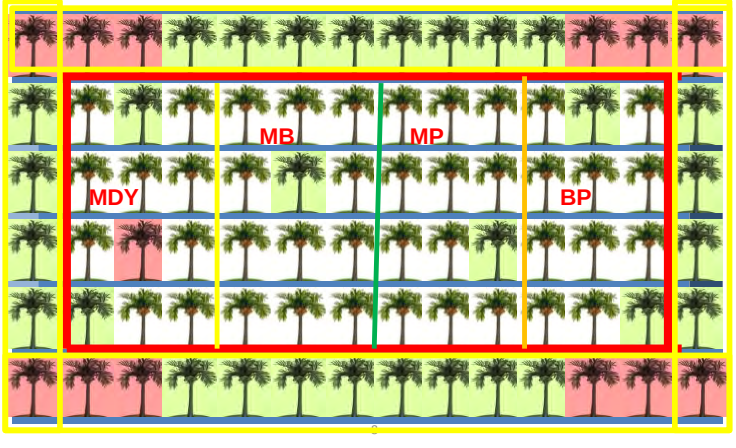


Figure 5 Multivarietal plantings with MDY (Malayan Dwarf Yellow), MB (Maybraz), MP (Maypan) and BP (Brapan)

(v) **'Special' Malayan Dwarfs at Spring Garden, Portland**

'Special' Malayan Dwarfs (Figure 6) continue to show high resistance to the lethal yellowing disease. However, the susceptibility to the fungal budrot disease was confirmed. The 'Special' Dwarfs can serve in future under pinning of the resistance in the coconut industry. One thousand two hundred and sixty-one (1,261) nuts were harvested and set in the nursery at Spring Garden, Portland. Approximately 90% were distributed to farmers.

Figure 6 'Special' Malayan Dwarf Yellows at Spring Garden, Portland

(vi) **Production of 'Special' Malayan Dwarf Yellows (F_1) at Barton Isles, St. Elizabeth**

The 'true to type' Malayan Dwarf Yellows at Barton Isles, St. Elizabeth, produced 1,420 seednuts to date. Eight hundred and seventy-one (871) seedlings representing 61.3% were germinated in the nursery. Ninety-six percent (96%) of the seedlings were distributed to farmers.

Monitoring of the established experimental plot (Hon. F. M. Phipps' farm in Union, St. Mary), exposing the 'Special' Malayan Dwarf plants to the lethal yellowing disease continued. The experiment consists of 15 'Special' Malayan Dwarfs and 15 Malayan Green Dwarfs. The plants have not succumbed to the lethal yellowing disease to date. One of the Malayan Green Dwarfs succumbed to budrot.

.

The experimental plots with the 'Special' Malayan Dwarf Yellows at Amity Hall, St. Thomas were monitored for pests and diseases and found to be disease-free.

(vii) **Potential new vector of LY, *Oecleus mackaspringii***

On May 27, 2019, twenty plant hoppers were collected at Spring Garden, Portland. The insects were discovered on leaflets of healthy coconut plants, placed into falcon tubes and then covered. The insect samples were identified and transferred to ethanol for further identification and analysis at the University of Florida.

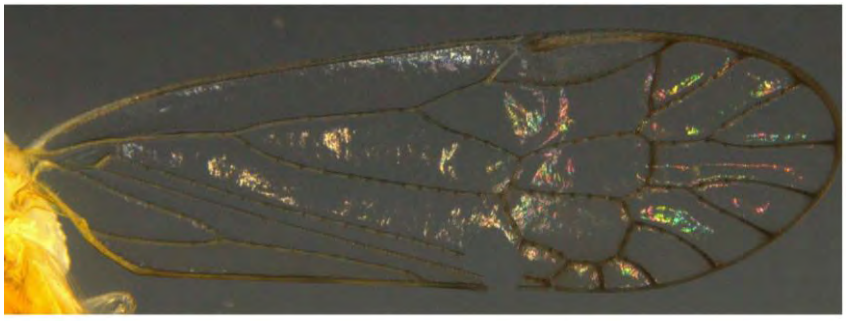
A new insect species of *Oecleus* was discovered (Figure 8) and was later confirmed by the University of Florida (Figures 9, 10, 11 and 12). The insect was named *Oecleus mackaspringii;* "Macka" because of its thorn-like features and "Springii" because it was found at Spring Garden.

Oecleus mackaspringii is a potential new vector of LY, as the phytoplasma that causes LY was found in this insect through molecular techniques and was independently verified by the University of Florida. The phytoplasma was found in the salivary gland of this insect.

Figure 8 *Oecleus mackaspringii.* Male and female (Courtesy of Professor Bahder)

Figure 9 *Oecleus mackaspringii*. Head and thorax of the male (Courtesy of Professor Bahder)

Figure 10 Male terminalia lateral, dorsal and ventral views of *Oecleus mackaspringii*. (Courtesy of Professor Bahder)



Oecleus sp. (male) forewing

Figure 11 Expansion of the forewing of *Oecleus mackaspringii* (Courtesy of Professor Bahder)

Oecleus sp. aedeagus dorsal *Oecleus* sp. aedeagus dorsal ventral

Figure 12 Aedeagus dorsal and ventral views of *Oecleus mackaspringii*. (Courtesy of Professor Bahder)

(viii) **Facts about the leafhopper, *Oecleus mackaspringii***

- For the COI gene, a 698 bp sequence was generated for *Oecleus mackaspringii* (Figure 13)
- For the 18S gene, a 1,354 bp product was generated for *Oecleus mackaspringii*
- The arrangement and positioning of the spines on the Aedeagus in *Oecleus mackaspringii* are unique.
- Observed only on coconut leaves
- It is not a pest to the coconut trees
- It is found distributed in four areas
- Nymphs of *Oecleus mackaspringii* was found on Guinea grass
- Spider (Figure 14) and ladybird beetle were found to be a predator of *Oecleus mackaspringii*

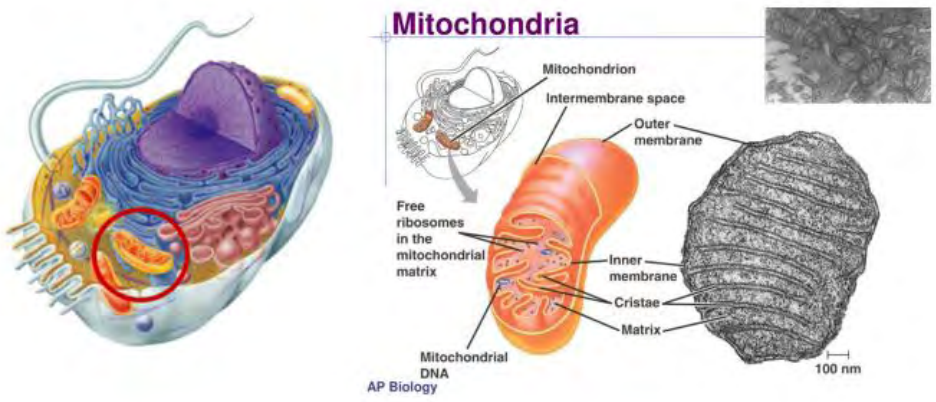


Figure 13 Animal or insect cell (AP Biology)/ location of the COI genes

Figure 14 Other insects found in survey at Spring Garden, Portland

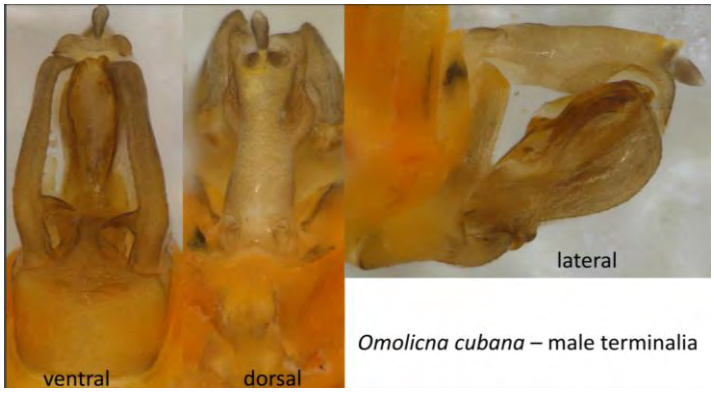


Figure 18 Male terminalia ventral, dorsal and lateral views of *Omolicna cubana* (Courtesy of Professor Bahder)

Figure 19 Head and thorax (male) of *Omolicna cubana* (Courtesy of Professor Bahder)

(ix) **The Visit of Dr. Ericka Helmick from the Vector Entomology Lab, University of Florida**

Dr. Ericka Helmick, from the University of Florida, visited Jamaica from July 28 to August 2, 2019. Approximately 963 insect samples were collected from Spring Garden, Kildare, Hart Hill, Iterboreale, Nashville, Nutts River, Belvedere, Holland, Seaside Road, Barton Isles and Kilmorey (Table 5). Approximately 365 of the samples collected are *Haplaxius crudus*. The insect samples were initially sorted and identified at the Coconut Industry Board and sent to the University of Florida for further analysis.

Table 5 Location and number of insects collected in survey

Location	Parish	Number of insects collected
Spring Garden	Portland	21
Hart Hill	Portland	2
Enfield	Portland	2
Iterboreale	Portland	2
Kildare	Portland	30
Holland	St. Thomas	54
Belvedere	St. Thomas	6
Nutts River	St. Thomas	57
Nashville	St. Mary	4
Kilmorey	St. Elizabeth	543
Barton Isles	St. Elizabeth	212
Seaside	St. Thomas	30

Total number of insects is approximately 963.

(x) **Seminars conducted at University of the West Indies and the Coconut Industry Board**

Three seminars were held on the newly discovered insect species, *Oecleus mackaspringii*, at the University of the West Indies, Coconut Industry Board and a facility of the All Island Banana Growers Association in Port Maria, St. Mary.

(xi) **Insect collection and phytoplasma transmission trials - September 30 to October 6, 2019**

Dr. Helmick, Ms. De Fen and Professor Bahder collaborated with the Coconut Industry Board on the collection of insects and transmission of LY phytoplasma from insects to sucrose solutions. Insect samples were collected from Enfield crossing, Kildare, Woodstock, Hart Hill, Spring Garden and Kilmorey. Approximately 500 plant hoppers were collected and sent to the University of Florida for identification and analysis.

Results from last insect collections

Please see Table 6 for results achieved so far in the testing of insect vectors.

Table 6 Number of insects tested for LY phytoplasma

	Site			No. phytoplasma positive/tested specimen (nested PCR)		digital PCR
Insect Species	Spring garden	Steadman	Kilmorey	Head (Salivary glands)	Body	Head (Salivary glands)
Haplaxius crudus	9	12	52			
Oecleus mackaspringi	74	0	0	10/74	2/61	3/10
Nymphomyndus caribbea	0	0	8			
Subtotal	83	12	60			
Total			155			

Methods

All insect specimens were dissected to separate their head and body parts for testing by nested PCR using phytoplasma universal primer for the presence of phytoplasma. Additionally, head parts were screened using digital PCR to detect low titer of phytoplasma that potentially present in the salivary glands (Figure 26). The sucrose solution that was collected from the feeding chamber experiment was tested using digital PCR.

Result

Some *Oecleus mackaspringi* specimens tested positive for phytoplasma, and one of the *O. mackaspringi* salivary glands tested positive in PCR reactions and was confirmed to be LY by sequencing. The remaining positive reactions were sequenced.

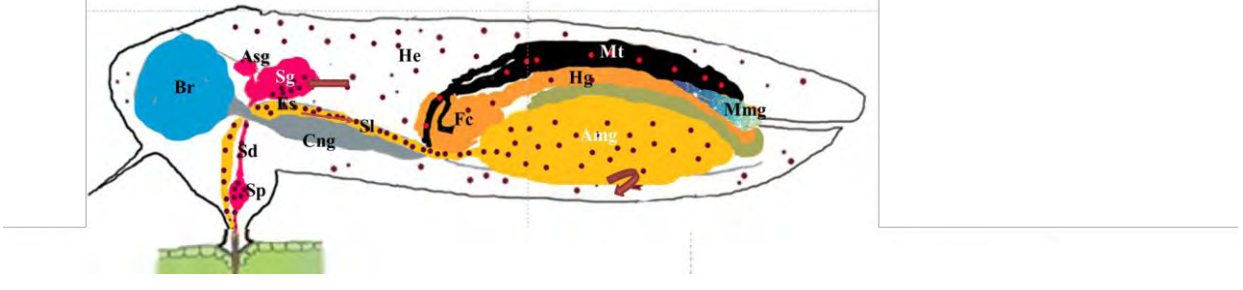


Figure 26

Reports and abstracts were submitted to the Coordinator, Professor Assunta Bertaccini, fulfilling the Board's obligation in the project.

The project "Coconut Industry Development for the Caribbean"

(xii) **Upgrading of Spring Garden nursery**

On Thursday, 25 April 2019, the National Irrigation Commission (NIC) handed over the newly established irrigation system to CARDI/CIB. The irrigation system was tested and it met all expectations (Figures 28 and 29). The existing system provides for expansion of the nursery area (beds) and different lines can be shut off if needed, while others remain open.

Figure 28 Irrigation system operating at Spring Garden, Portland (Courtesy of Dr. Robin)

Figure 29 Pump house for the pump of the irrigation system

Drought mitigation measure was implemented by the Coconut Industry Board by raising the beds and irrigation systems were installed by the ITC/CARDI project and Agro-Parks. There is adequate irrigation for increased productive capacity in seedlings output.

(xiii) **Integrated Pest Management (IPM)**

IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used following an assessment

being done, and treatments are made to remove only the target organism. To reduce the use of Roundup (Glyphosate) (N-(phosphonomethyl) glycine) an observation experiment was conducted at Nashville, St. Mary using 1gallon of vinegar, 2 cups of Epsom salt and ¼ cup of dishwashing liquid. The concentration of Epsom salt was increased from 2 cups to 2½ cups and the burning of the grasses was observed 24 hours after application (Figure 30).

Figure 30 Observation of the effect Vinegar and Epsom salt cocktail on grass and other weeds 24 hours after application around the coconut palm

(xiv) **Ambrosia beetle**

Since 2012 when the Ambrosia Beetle was first identified, it has been observed and controlled in over fifteen areas across St. Mary, Clarendon, Hanover, Portland, St. Thomas and St. Elizabeth.

(xv) **Assessing the severe drying of the leaves of the coconut trees at Barton Isles**

The Plant Pathologist, Dr. Wayne Myrie, visited Barton Isles Seed Garden and examined the issue of the severe drying of the leaves of the coconut trees. The following observations were made:

1. The drying of the leaves of the coconut trees was occurring in the irrigated and non-irrigated sections (Figure 33).
2. The drying of the leaves of the coconut trees prevents photosynthesis which decreases production.
3. The unshaded seedlings in the nursery, which had been exposed to the same environmental condition were not affected by the drying syndrome.

All the trees in the five sections of the property are affected to the same extent by the dryness of the leaves. The coconut trees at Under Hill are not as severely affected when compared with the other areas. The coconut trees in the surrounding district only show drying of the lowest and second lowest leaves. However, there are few which showed symptoms similar to those observed at Barton Isles.

The current problem at Barton Isles appears to be attributed to several factors. As a result of the drought in the summer months of 2019, the plants were unable to make use of the infrequent rainfall and dew. The Malayan Green Dwarfs are susceptible to leaf spot disease and this disease would have contributed to the problem. However, it is not the cause of the severe dryness of the leaves. Other contributing factors were the soil condition, herbicide use over 24 years, plant nutrition and, environmental factors such as temperature, rainfall and humidity.

The soil should be rehabilitated with the use of organic matter high in nitrogen, potash and trace elements and the herbicide usages should be kept at a minimum.

Figure 33 Severe drying of leaves of coconut trees at Barton Isles, St. Elizabeth

(xvi) **Coconut Tree Climbers**

The coconut tree climber was invented by Mr. M. J. Joseph Appachan to rectify the problems faced in climbing tall coconut trees. The climber consists of two metal loops that are meant for holding the legs. It has a handle at the top for hand grip and a pedal base at the bottom. The loops are put around the tree trunk on the opposite sides. The loop on either side is lifted by the simultaneous movement of the hand and feet. By such alternate motion, one can easily climb a coconut tree in minutes.

In January of 2019, the Board decided to invite two climbers from India to train our farmers on how to effectively use the coconut tree climber. Many farmers and persons who harvest coconuts in the coconut growing areas were exposed to the training sessions (Figures 35 and 36).

Figure 35 Two Climbers from India

Figure 36 Participants in the coconut tree climbing training at Barton Isles, St. Elizabeth

Agronomy

(i) **The use of organic and inorganic fertilizers, and their effects on coconuts (established February 2017)**

Coconut seedlings were planted in a randomized block in the field. During growth, an inorganic (14-28-14) and an organic (4-3-3-65) grade of fertilizers were applied to determine their effects on both vegetative and reproductive growth over six years. Data collected to date showed no differences in the vegetative growth of the plants as seen in Table 1.

Table 1

Treatment	Girth (cm)	std	Petiole Length /cm	std	Rachis Length /cm	std	# Leaves	std
14-28-14	109.56	19.72	90.95	14.51	289.36	49.92	21.00	3.96
4-3-3-65	102.38	27.40	95.62	23.09	285.57	75.60	21.13	6.84

Bearing began when the plants were approximately two years and two months old. Visual observations made indicated that the plants fertilized with the organic fertilizer showed differences in the number of female flowers produced when compared to those fertilized with the inorganic fertilizer (Figures 1 and 2).

Figure 1 Bearing of a coconut palm fertilized with a grade of inorganic fertilizer, showing approximately 5 female flowers

Figure 2 Bearing of a coconut palm fertilized with a grade of organic fertilizer, showing greater than 30 female flowers

(ii) **To mitigate soil erosion at Esher**

A vetiver nursery was established at Esher during the period of February – April 2019. Soil erosion was one of the contending challenges experienced on this farm over the years and it sometimes resulted in the loss of trees as well as the continuous break away of the soil during periods of heavy rainfall (Figure 3 and Figure 4).

Previously, vetiver grass was planted in other sections and showed that it has the ability to mitigate against soil erosion in certain sections, hence the creation of the nursery. However, due to the unusual weather patterns in the parish, the growth and therefore the performance (bulking up) of the grass were not as expected. Some changes were later seen in its performance with the minimal rainfall received later in the year.

Figure 3

Figure 4

Other benefits of planting vetiver grass include:

i. Absorption of water and maintenance of soil moisture;
ii. Absorption of toxic substances in chemical fertilizers and pesticides;
iii. Improvement in the physical element of the soil.

(iii) **Fruit set and yield fluctuations in coconut**

Fruit set in coconuts will reduce if the temperature exceeds 33°C (91.4°F) after inflorescence opening (Ranasinghe, et al. 2015). Fruit set and yield are dependent on pollen performance, which too is affected by high temperatures. It was reported that the optimum temperature for pollen germination is 28°C (82.4°F), and the maximum temperature at which they germinate is 39.7°C (103.46°F).

The rationale for the establishment of this experiment was due to the fluctuation in the coconut production from year to year. Other observations seen over time included a high production of female flowers followed by high abortion rates, as well as the survival patterns of the female flowers vary from month to month within a year and so does the maturity of seednuts. The objective of this experiment is therefore to determine the survival patterns of female flowers, and to determine the optimal temperature range for the germination of pollen under in vitro conditions. Inflorescences are being collected from a few farms, samples of male flowers collected, placed in liquid germinating solution and incubated at temperatures ranging from as low as 20°C (68°F) to as high as 34°C (93.2°F) and their growth observed every 2 hours for 8 hours per day (Figure 5). These temperatures were selected based on the average temperature range seen on one of the Board's farms.

Figure 5 Pollen which germinated at 20°C (collected from Orange River)

(iv) **Use of Mycogel to increase the uptake of nutrients by the roots of coconut plants**

Mycogel is a living mycorrhizal culture of fungi that is expected to form a symbiotic relationship with the roots of plants, thereby allowing the plant to increase its uptake of minerals and nutrients from the soil. Oftentimes soil tests show that nutrients are available in the soil, but plant tissue analysis shows that the plants do not efficiently absorb them. As a result, an experiment was established in September 2019 to determine the effects of this product on nutrient uptake by coconut roots.

The agronomic advantages of using this product are said to include:

1. An increase in the absorption of phosphorus. Phosphorus is a critical nutrient needed by coconuts for the synthesis of fatty acids, which in turn is needed for successful germination
2. The stimulation of growth and survival under stressful conditions such as drought, salinity, poor soils and extreme pH
3. An increase in vigour and survival
4. To aid in the plant's defence against pests and pathogens

One hundred Malayan Dwarf seedlings were removed from the nursery at Spring Garden and planted in bags to establish the experiment. A randomized block design was used and consisted of four treatments. The treatments were applied approximately six weeks after the transplanting of the seedlings into bags. Figure 6 shows root growth before the plants were inoculated. Before transplanting into the field, plants will be removed from the bags and their roots examined. Data will be collected over the next 3-5 years.

Figure 6 Root growth before inoculation

The plant to the extreme right of Figure 6 is expected to die since no roots were generated. As a result, the vegetative growth seen was due to storage products.

The Board delivers seedlings without roots to farmers. Whereas the seedlings previously described were set in bags and were planted with their roots intact, those distributed to farmers introduced another factor to be examined. As a result, 90 seedlings were removed from the nursery, their roots removed and transplanted into the field in December 2019. Mycogel will be applied within the root zone approximately three months late in 2020 and a comparison of treatments will be made.

Tissue Culture

The Board in collaboration with the University of the West Indies continued to establish protocols for the culture of elite germplasm.

Activity 1: Developing embryo culture and somatic embryogenesis protocols for the production of elite coconut varieties

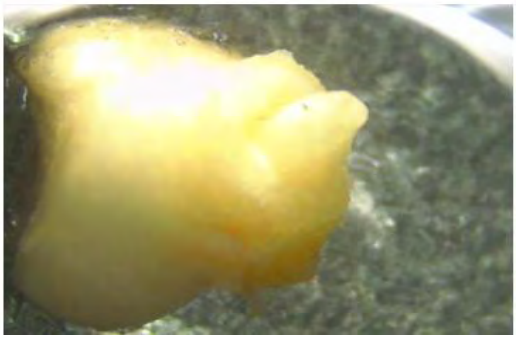
On the advice of the researchers at the Coconut Research Institute in Sri Lanka (CRISL), the somatic embryogenesis protocol was expanded to include immature embryos and immature inflorescence as explants in addition to plumular explants currently being assessed. It was also suggested that the Panama Tall variety be included in addition to the Malayan Dwarf variety currently in use as most successful somatic embryogenesis protocols were carried out using the Tall varieties. These explants were placed on medium for callus culture Y3+25uM – 200uM 2,4D the initial step towards the production of somatic embryos for 3-6 months.

Almost all explants showed swelling in response to culture. Of the 26 samples from the Malayan Dwarf variety, five samples gave evidence of differentiation on multiplication medium, producing callus, or outgrowth of shoots in response to varying concentrations of 2,4D. There was also the production of defined translucent structures resembling somatic embryos which is a positive step.

Malayan Dwarf embryos have been used for embryo culture in several experiments to improve the germination and recovery of plants. Variables include the use of the hormones benzyl amino purine and gibberellic acid to improve percent germination and uniformity, as well as the age/maturity of the embryo used. Three hardened plants from embryo culture were delivered to the Coconut Industry Board and planted at the Waterloo Road premises.

Follow-up/Future work: The results for callus culture were particularly encouraging with the production of callus and defined structures, presumably precursors to somatic embryos. The experiments will be repeated with all other explants as we continue to refine the protocols and work towards the production of multiple plants.

1a



1b

Figures 1a and 1b: Differing responses of plumular explants in callus culture. **Fig. 1a** – the outgrowth of the plumule occurs in the presence of low concentrations of auxins. **Fig. 1b** – callus generation and the production of defined structures occurs under high auxin concentrations.

2a

2b

Figures 2a and 2b: Hardened plants June 2019. **Figure 2b** - one of three hardened plants presently at the Coconut Industry Board.

Activity 2: Hardening and Evaluation of Cultured Pacific Talls from CICY

Sixty (60) plants were received from Centro de Investigación Científica de Yucatan (CICY) Mexico in October 2019. The plants were of the Pacific Tall variety, produced from somatic embryogenesis, certified free of lethal yellowing and said also to be resistant to the Mexican strain of the phytoplasma which causes this disease. This represents part of a set of 500 to be purchased by the CARDI/ITC project for hardening and evaluation.

The plants were placed in a mixture of sand and potting mix which had been sterilized. They were treated with the fungicide Topsin as well as Indole Butyric Acid (rooting powder) for root development, then placed in individual growth bags and covered with plastic bags (poly bags).

Two main issues were noted. The plants were prone to fungal infection and would wither/dry out, even with regular watering, implying that the waxy cuticle needed for hardening was underdeveloped. The plants also have an underdeveloped rooting system.

Figure 3: Pacific Tall plants from CICY, Mexico

Follow-up/Future Work: Increased humidity for prolonged periods and a sterile environment are key for hardening any future plants. A suitable shadehouse will be constructed using a sterile greenhouse or growth room with a humidifier and a sprinkler system to increase humidity. The plants should also be covered with thicker bags for longer periods to reduce water loss.

9. ADVISORY

During Year 2019, the Advisory Department continued its annual mandate to effectively achieve the goals of the Research Department. The Advisory Officers worked relentlessly to communicate information as well as offer technical support and act as the liaison between the Coconut Industry Board and new and existing coconut growers islandwide and to the public.

(i) Lethal Yellowing Disease

The lethal yellowing (LY) sensitization programme continued and was used as a means of informing and educating growers and other individuals of the spread of LY disease and measures which can be employed to restrict its spread. Officers of the department were also very active in assisting growers to remove and burn over 3,750 diseased trees and also assisted growers to obtain 672 replacement seedlings.

Outreach activities, public awareness and educational sessions were conducted in areas with LY disease as well as areas not yet affected. These sessions were conducted through regular farm visits, field days, displays at agricultural shows, training secessions with commodity boards and other group assemblies.

Various forms of communication methods have been utilized in order to achieve these initiatives including practical demonstrations, multimedia presentations, RADA field days, brochures, 4-H Achievement days and discussions with individuals.

(ii) Farm Visits

Over 1,603 new farms were visited during 2019 in order to increase the coconut population in Jamaica. The growers' problems and concerns were addressed individually or in groups, depending on the nature of the concerns and number of individuals with similar issues. More serious concerns or information/data gathered from farmers were likewise passed on to the Research Department for further investigations.

(iii) Seedling distribution

For the industry to remain viable, increasing plant population is of major significance. Over 44,753 plants were distributed to various parishes islandwide.

(iv) Other Advisory Activities

- Tree climbing demonstration by climbers from India with use of the coconut tree climbing equipment at the Coconut Industry Board in St. Andrew, Tulloch Estates in St. Catherine, Stone's Property in St. Mary, and Michael Black Farms in St. Thomas.
- St. Mary Agricultural Show where displays on coconuts and coconut by-products were mounted. There were also demonstrations done on tree climbing and ice cream making and sampling.
- Discussions with farmers and personnel from the Rural Agricultural Development Authority (RADA)
- The launch of the Denbigh 67th Agricultural, Industrial and Food Show at the Hi-Pro Ace Super Centre, White Marl, St. Catherine where a display was mounted, including coconuts and the environment, pests and diseases.
- Denbigh Exhibitors meeting, Clarendon where there were discussions on the rules and regulations, security, health and food safety guidelines.

10. REMUNERATION

(a) The total remuneration of the three most senior executives for Year 2019 was $17,642,115.

(b) The total fees paid to the Chairman and the other Directors (Board Members) during the year was $2,263,081 and the total fees paid to non-directors for attending Board and Committee meetings was $49,842.

These fees are in accordance with the guidelines established by the Public Enterprises Division of the Ministry of Finance and the Public Service and were approved by our portfolio Minister.

11. FINANCE

Audited financial statements for the Board and the Windstorm Insurance Fund, for the year ended December 31, 2019, are attached.

12. ACKNOWLEDGEMENT

The Board gratefully acknowledges the assistance provided by the following persons and local and overseas institutions: the Minister of Industry, Commerce, Agriculture and Fisheries and the officers of that Ministry, the Molecular Biology Unit at the University of the West Indies (**U.W.I.**), the International Coconut Genetic Resources Network/the International Plant Genetic Resources Institute (**COGENT/IPGRI**), Centro de Investigación Científica de Yucatan (**CICY**) - Mexico, the Escuela Agricola Panamericana (Zamorano) - Honduras, the University of Florida and the Caribbean Agricultural Research and Development Institute (**CARDI**).

The Board expresses thanks to coconut growers for their support and to the staff of the Board for their dedication to duty.

By Order of the Board
Christopher Gentles
Chairman

Coconut Industry Board

Financial Statements
31 December 2019

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Independent auditor's report

To the Members of Coconut Industry Board

Report on the audit of the financial statements

Our opinion

In our opinion, the financial statements give a true and fair view of the financial position of Coconut Industry Board (the Board) as at 31 December 2019, and of its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards.

What we have audited

The Board's financial statements comprise:

- the statement of financial position as at 31 December 2019;
- the statement of comprehensive income for the year then ended;
- the statement of changes in equity for the year then ended;
- the statement of cash flows for the year then ended; and
- the notes to the financial statements, which include a summary of significant accounting policies.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Board in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code). We have fulfilled our other ethical responsibilities in accordance with the IESBA Code.

Responsibilities of management for the financial statements

Management is responsible for the preparation of the financial statements that give a true and fair view in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Board's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Board or to cease operations, or has no realistic alternative but to do so.

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Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Board's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Board's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Board to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

PricewaterhouseCoopers

Chartered Accountants
5 August 2020
Kingston, Jamaica

Coconut Industry Board

Statement of Comprehensive Income

Year ended 31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	Note	2019 $'000	2018 $'000
Revenue		158,816	177,326
Direct expenses		(115,804)	(132,540)
Gross Profit		43,012	44,786
Other operating income	5	73,211	47,587
Distribution expenses		(1,226)	(1,515)
Research and extension expenses		(55,438)	(55,428)
Administration expenses -			
Movement in post-employment benefit obligations		(19,500)	(21,200)
Other		(121,752)	(134,628)
Other operating expenses		(32,363)	(28,782)
Operating Deficit		(114,056)	(149,180)
Share of profits of associated company, net of taxes	9	216,840	327,444
Gain on dilution of shares in associated company	9	-	241,148
Net Surplus		102,784	419,412
Other Comprehensive Income			
Item that will not be reclassified to profit or loss -			
Re-measurement of post-employment benefits		15,900	40,300
Item that may be subsequently reclassified to profit or loss -			
Share of other comprehensive income of associate accounted for using the equity method	9	(3,380)	20,470
Total Comprehensive Income for the Year		115,304	480,182

Coconut Industry Board

Statement of Financial Position

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	Note	2019 $'000	2018 $'000
Non-Current Assets			
Property, plant and equipment	8	73,827	61,454
Investment in associated company	9	3,335,085	3,285,048
Investments	10	18,094	5,027
Deferred expenditure	12	11,071	8,890
		3,438,077	3,360,419
Current Assets			
Loans receivable	11	255	363,723
Inventories	13	5,545	5,915
Biological assets	14	17,148	18,680
Receivables	15	170,116	133,980
Short-term investments	10	1,172,433	767,392
Cash at bank and in hand	16	18,686	30,424
		1,384,183	1,320,114
Current Liabilities			
Payables	17	17,921	12,216
Coconut Windstorm Insurance Fund		71,388	45,788
		89,309	58,004
Net Current Assets		1,294,874	1,262,110
		4,732,951	4,622,529

Coconut Industry Board

Statement of Financial Position (Continued)

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	Note	2019 $'000	2018 $'000
Capital and Reserves			
Capital surplus	18	515,948	517,178
Capital fund	19	300,934	298,507
Fair value reserve	20	-	8,880
Staff contingency fund	21	47,406	37,566
Coconut replanting fund	22	209,146	205,210
Reserves	23	3,569,117	3,460,188
Total Capital and Reserves		4,642,551	4,527,529
Non-Current Liability			
Post-employment obligations	24	90,400	95,000
		4,732,951	4,622,529

Approved for issue by the Board of Directors on July 27, 2020 and signed on its behalf by:

Christopher Gentles — Director

Nicholas Jones — Director

Coconut Industry Board

Statement of Changes in Equity

Year ended 31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	Note	Capital Surplus	Capital Fund	Fair Value Reserve	Staff Contingency Fund	Coconut Replanting Fund	Reserves	Total
		$'000	$'000	$'000	$'000	$'000	$'000	$'000
Balance at 1 January 2018		498,914	415,870	8,880	71,824	227,444	2,820,609	4,043,541
Net surplus for the year		-	-	-	-	-	419,412	419,412
Other comprehensive income -								
Remeasurement of post-employment benefits		-	-	-	-	-	40,300	40,300
Other reserves		18,264	-	-	-	-	2,206	20,470
Total comprehensive income		18,264			-	-	461,918	480,182
Transactions with owners		-	-	-	-	-	3,806	3,806
Transfer from capital fund	19	-	(117,363)	-	-	-	117,363	-
Transfer from staff contingency fund	21	-	-	-	(34,258)		34,258	-
Transfer from coconut replanting fund	22	-	-	-	-	(22,234)	22,234	-
Balance at 31 December 2018		517,178	298,507	8,880	37,566	205,210	3,460,188	4,527,529
Net surplus for the year		-	-	-	-	-	102,784	102,784
Other comprehensive income –								
Remeasurement of post-employment benefits		-	-	-	-	-	15,900	15,900
Other reserves		(1,230)	-	-	-	-	(2,150)	(3,380)
Total comprehensive income		(1,230)	-	-	-	-	116,534	115,304
Transactions with owners		-	-	-	-	-	(282)	(282)
Transfer to capital fund	19	-	2,427	-	-	-	(2,427)	-
Transfer to staff contingency fund	21	-	-	-	9,840	-	(9,840)	-
Transfer to coconut replanting fund	22	-	-	-	-	3,936	(3,936)	-
Transfer from fair value reserve		-	-	(8,880)	-	-	8,880	-
Balance at 31 December 2019		515,948	300,934	-	47,406	209,146	3,569,117	4,642,551

Coconut Industry Board

Statement of Cash Flows

Year ended 31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	Note	2019 $'000	2018 $'000
Cash Flows from Operating Activities			
Net surplus		102,784	419,412
Adjusted for:			
Share of profits from associated company	9	(216,840)	(327,444)
Gain on dilution of shares in associated company	9	-	(241,148)
Depreciation	8	15,313	12,528
Gain on disposal of property, plant and equipment		(5,072)	(791)
Write off of deferred expenditure	12	231	832
Interest income	5	(34,509)	(27,073)
Post-employment benefits		20,500	68,300
Foreign exchange gain	5	(32,779)	(18,422)
		(150,372)	(113,806)
Changes in operating assets and liabilities -			
Receivables		(36,136)	(80,771)
Inventories		370	(2,682)
Biological assets		1,532	(5,612)
Coconut Windstorm Insurance Fund		25,600	32,828
Payables		5,705	730
Cash used in operating activities		(153,301)	(169,313)
Cash Flows from Investing Activities			
Repayment of loan receivable by associate		385,857	-
Purchase of property, plant and equipment	8	(27,756)	(15,286)
Proceeds from disposal of property, plant and equipment		5,141	800
Purchase of investments		(2,687)	(12,589)
Deferred expenditure	12	(2,412)	(2,153)
Dividend received		131,962	81,811
Interest received		34,509	27,073
Cash provided by investing activities		524,614	79,656
Increase/(decrease) in cash and cash equivalents		371,313	(89,657)
Effect of exchange rate changes on cash and cash equivalents		24,487	33,285
Cash and cash equivalents at beginning of year		785,227	841,599
Cash and Cash Equivalents at End of Year		1,181,027	785,227
Comprising:			
Cash at bank and in hand	16	18,686	30,424
Short-term investments	10	1,162,341	754,803
		1,181,027	785,227

Coconut Industry Board

Notes to the Financial Statements

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

1. Identification and Principal Activities

The Coconut Industry Board ("The Board") is a body corporate established under the Coconut Industry Control Act, 1945. The Board consists of nine members, four of whom are appointed by the Minister of Industry, Commerce, Agriculture and Fisheries; the remaining five are elected by registered coconut growers and must themselves be registered coconut growers or the attorneys for such registered coconut growers, or the managing directors or managers of companies which are registered coconut growers.

The main functions of the Board are:

(a) Keeping Government informed on the state of the industry and advising on any action that is necessary;
(b) Assisting growers to market their crop;
(c) Conducting research on the agricultural problems of the industry; and
(d) Advising growers on their agricultural problems.

The Board's registered office and principal place of business is located at 18 Waterloo Road, Kingston 10.

The Board is also responsible for the management of the Coconut Windstorm Insurance Fund which, at year end, has net assets of $229,824,000 (2018 - $219,492,000).

On 28 December 1995, the Board was granted tax exempt status, effective 1 January 1971.

2. Significant Accounting Policies

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(a) Basis of preparation

These financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) and interpretations issued by the IFRS Interpretations Committee (IFRS IC) applicable to companies reporting under IFRS. The financial statements have been prepared under the historical cost convention except for plan assets measured at fair value.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Board's accounting policies. Although these estimates are based on management's best knowledge of current events and actions, actual results could differ from those estimates. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements, are disclosed in Note 4.

New and amended standards and interpretations effective in the current year

Certain amendments and clarifications to existing standards have been published that became effective during the current financial year. The Board has assessed the relevance of all such new amendments and clarifications and has put into effect the following, which are immediately relevant to its operations.

Coconut Industry Board
Notes to the Financial Statements
31 December 2019
(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(a) Basis of preparation (continued)

New and amended standards and interpretations effective in the current year (continued)

IFRS 16 Leases
IFRS 16, which is effective 1 January 2019, sets out the principles for the recognition, measurement, presentation and disclosure of leases and will replace IAS 17 Leases, IFRIC 4 Determining whether an Arrangement contains a Lease, SIC-15 Operating Leases and SIC-27 Evaluating the Substance of Transactions Involving the Legal Form of a Lease.

The standard removes the current requirement for lessees to classify leases as finance leases or operating leases by introducing a single lessee accounting model that requires the recognition of lease assets (right-of-use assets) and lease liabilities on the statement of financial position for most leases. Lessees will also now separately recognise interest expense on the lease liability and depreciation expense on the right-of-use asset in the statement of profit or loss.

Lessor accounting is substantially unchanged from accounting under IAS 17. Lessors will continue to classify all leases using the same classification principle as in IAS 17 and distinguish between two types of leases: operating and finance leases.

The Board completed its assessment of the potential impact of adopting IFRS 16 on its financial statements. The adoption of IFRS 16 did not have any impact on the financial statements as the Board does not have any leased assets.

Amendments to IAS 19, 'Employee benefits' (effective for annual periods beginning on or after 1 January 2019). These amendments require an entity to use updated assumptions to determine current service cost and net interest for the remainder of the period after a plan amendment, curtailment or settlement and to recognise in profit or loss as part of past service cost, or gain or loss on settlement, any reduction in a surplus, even if that surplus was not previously recognised because of the impact of the asset ceiling. Any changes in the asset ceiling is recognised separately through other comprehensive income. The Board has adopted this treatment for its post-employment benefit plans. There was no impact on the asset ceiling from the adoption of these amendments.

Amendment to IAS 28, 'Investments in associates and joint ventures' (effective for annual periods beginning on or after 1 January 2019). This amendment clarifies that companies account for long term interests in an associate or joint venture to which the equity method is not applied using IFRS 9. There was no impact from the adoption of this amendment.

Coconut Industry Board
Notes to the Financial Statements
31 December 2019
(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(a) Basis of preparation (continued)

Standards, amendments and interpretations to existing standards that are not yet effective and have not been early adopted by the Board

Annual improvements to IFRS 2015 - 2018 Cycle – Amendments to IAS 12 and IAS 23 (effective for annual periods beginning on or after 1 January 2019). The amendments to IAS 12 clarify that all income tax consequences of dividends should be recognised in profit or loss, regardless of how the tax arises. The amendments to IAS 23 clarify that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalisation rate on general borrowings. There was no significant impact from the adoption of these amendments.

Amendments to IAS 1, 'Presentation of financial statements' effective annual periods beginning on or after 1 January 2020. These amendments clarify that liabilities are classified as either current or non-current, depending on the rights that exist at the end of the reporting period. Classification is unaffected by the expectations of the entity or events after the reporting date (for example, the receipt of a waiver or a breach of covenant). The amendment also clarifies what IAS 1 means when it refers to the 'settlement' of a liability. The company is currently assessing the impact of future adoption of the new amendments on its financial statements.

Amendments to IFRS 9, IAS 39 and IFRS 7 – Interest rate benchmark reform effective annual periods beginning on or after 1 January 2020. These amendments provide certain reliefs in connection with interest rate benchmark reform. The reliefs relate to hedge accounting and have the effect that IBOR reform should not generally cause hedge accounting to terminate. However, any hedge ineffectiveness should continue to be recorded in the income statement. Given the pervasive nature of hedges involving IBOR based contracts, the reliefs will affect companies in all industries.

Amendments to IAS 1 'Presentation of financial statements' and IAS 8 'Accounting policies, changes in accounting estimates and errors' (effective for annual periods beginning on or after 1 January 2020). These amendments clarify the definition of materiality and the meaning of primary users of general purpose financial statements by defining them as existing and potential investors, lenders and other creditors. The Board is currently assessing the impact of this standard.

Revised Conceptual Framework for Financial Reporting (effective for annual periods beginning on or after 1 January 2020). The revised Conceptual Framework will be used in standard-setting decisions with immediate effect; however no changes will be made to any of the current accounting standards. Entities that apply the Conceptual Framework in determining accounting policies will need to consider whether their accounting policies are still appropriate under the revised Framework. The Board is currently assessing the impact of this revision.

There are no other IFRS or IFRIC interpretations that are not yet effective that would be expected to have a material impact on the Board.

Coconut Industry Board
Notes to the Financial Statements
31 December 2019
(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(b) Foreign currency translation

Functional and presentation currency

Items included in the financial statements are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The financial statements are presented in Jamaican dollars, which is the functional and presentation currency.

Transactions and balances

Foreign currency transactions are accounted for at the exchange rates prevailing at the dates of the transactions. At year end, monetary assets and liabilities denominated in foreign currency are translated using the closing exchange rate. Exchange differences arising from the settlement of transactions at rates different from those at the dates of the transactions and unrealised foreign exchange differences on unsettled foreign currency monetary assets and liabilities are recognised in the statement of comprehensive income.

(c) Property, plant and equipment

Property, plant and equipment are recorded at historical cost less accumulated depreciation. Depreciation is calculated on the straight-line basis at such rates as will write off the carrying value of the assets over the period of their expected useful lives, which are as follows:

Freehold buildings	40 years
Research library stock and furniture, fixtures, equipment and fence improvement	5 – 10 years
Motor vehicles	5 years

Land is not depreciated.

Gains and losses on disposal of property, plant and equipment are determined by reference to their carrying amount and are considered in determining operating results.

Repairs and maintenance expenditure are charged to the statement of comprehensive income during the financial period in which it is incurred. The cost of major renovations is included in the carrying amount of the asset when it is probable that future economic benefits in excess of the originally assessed standard of performance of the existing asset will flow to the Board. Major renovations are depreciated over the remaining useful life of the related asset.

(d) Impairment of non-current assets

Property, plant and equipment and other non-current assets are reviewed for impairment losses whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the carrying amount of the asset exceeds its recoverable amount, which is the greater of the asset's net selling price and the value in use. For the purpose of assessing impairment, assets are grouped at the lowest level for which there are separately identifiable cash flows.

Coconut Industry Board
Notes to the Financial Statements
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2. Significant Accounting Policies (Continued)

(e) Investment in associates

An associate is an entity over which the Board has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. The Board's share of its associates' post-acquisition profits or losses is recognised in the income statement, and its share of post-acquisition movements in reserves is recognised in other reserves. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Board's share of losses in an associate equal or exceeds its interest in the associate, including any other unsecured receivables, the Board does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate.

Investments in associates are accounted for using the equity method of accounting and are initially recognised at cost.

(f) Financial instruments

A financial instrument is any contract that gives rise to both a financial asset in one entity and a financial liability or equity in another entity.

Financial assets

The Board's financial assets comprise investment securities, loans receivable, other receivables, cash and short-term investments.

Classification

The Board classifies its financial assets as hold to collect and measures them at amortised cost.

The classification depends on the business model used for managing the financial assets and the contractual terms of the cash flows. The Board reclassifies debt investments only when its business model for managing those assets changes.

Measurement

Debt instruments

Measurement of debt instruments depends on the Board's business model for managing the asset and the cash flow characteristics of the asset. The Board classifies its debt instruments as follows:

- Amortised cost: Assets that are held for collection of contractual cash flows, where those cash flows represent solely payments of principal and interest, are measured at amortised cost. Interest income from these financial assets is included in the income statement using the effective interest rate method. Any gain or loss arising on derecognition is recognised directly in profit or loss. Impairment losses are presented as a separate line item in the income statement.

Coconut Industry Board
Notes to the Financial Statements
31 December 2019
(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(f) Financial instruments (continued)

Impairment

The Board assesses on a forward-looking basis the expected credit losses (ECL) associated with its financial assets classified at amortised cost.

Application of the General Model
The Board has applied the 'general model' as required under IFRS 9 for debt instruments other than trade receivables. Under this model, the Board is required to assess on a forward-looking basis the ECL associated with its debt instrument assets carried at amortised cost. The ECL will be recognised in profit or loss before a loss event has occurred. The measurement of ECL reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. The probability-weighted outcome considers multiple scenarios based on reasonable and supportable forecasts. Under current guidance, impairment amount represents the single best outcome; the time value of money; and reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

ECL is calculated by multiplying the Probability of default (PD), Loss Given Default (LGD) and Exposure at Default (EAD).

The impairment model uses a three-stage approach based on the extent of credit deterioration since origination:
Stage 1 – 12-month ECL applies to all financial assets that have not experienced a significant increase in credit risk since origination and are not credit impaired. The ECL will be computed using a 12-month PD that represents the probability of default occurring over the next 12 months.

Stage 2 – When a financial asset experiences a significant increase in credit risk subsequent to origination but is not credit impaired, it is considered to be in Stage 2. This requires the computation of ECL based on lifetime PD that represents the probability of default occurring over the remaining estimated life of the financial asset. Provisions are higher in this stage because of an increase in risk and the impact of a longer time horizon being considered compared to 12 months in Stage 1.

Stage 3 – Financial assets that have an objective evidence of impairment will be included in this stage. Similar to Stage 2, the allowance for credit losses will continue to capture the lifetime ECL.

The Board uses judgement when considering the following factors that affect the determination of impairment:

Coconut Industry Board
Notes to the Financial Statements
31 December 2019
(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(f) Financial instruments (continued)

Impairment (continued)

Assessment of Significant Increase in Credit Risk
The assessment of a significant increase in credit risk is done on a relative basis. To assess whether the credit risk on a financial asset has increased significantly since origination, the Board compares the risk of default occurring over the expected life of the financial asset at the reporting date to the corresponding risk of default at origination, using key risk indicators that are used in the Board's existing risk management processes. At each reporting date, the assessment of a change in credit risk will be individually assessed for those considered individually significant and at the segment level for retail exposures. This assessment is symmetrical in nature, allowing credit risk of financial assets to move back to Stage 1 if the increase in credit risk since origination has reduced and is no longer deemed to be significant.

Macroeconomic Factors, Forward Looking Information and Multiple Scenarios
The Board applies an unbiased and probability weighted estimate of credit losses by evaluating a range of possible outcomes that incorporates forecasts of future economic conditions.

Macroeconomic factors and forward-looking information are incorporated into the measurement of ECL as well as the determination of whether there has been a significant increase in credit risk since origination. Measurement of ECLs at each reporting period reflect reasonable and supportable information at the reporting date about past events, current conditions and forecasts of future economic conditions.

The Board uses three scenarios that are probability weighted to determine ECL.

Expected Life
When measuring ECL, the Board considers the maximum contractual period over which the Board is exposed to credit risk. All contractual terms are considered when determining the expected life, including prepayment options and extension and rollover options.

Application of the Simplified Approach
For trade receivables, the Board applies the simplified approach permitted by IFRS 9, which requires that the impairment provision is measured at initial recognition and throughout the life of the receivables using a lifetime ECL. As a practical expedient, a provision matrix is utilised in determining the lifetime ECLs for trade receivables.

The lifetime ECLs are determined by taking into consideration historical rates of default for each segment of aged receivables as well as the estimated impact of forward-looking information.

Coconut Industry Board

Notes to the Financial Statements

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(g) Deferred expenditure

Expenditure incurred on seed garden projects is accumulated until the seed garden starts generating income, after which it is written off, as the revenue to which it relates is earned. The period for, and the corresponding rate of, the write off is as follows:

Year 5	-	25%
Year 6	-	30%
Year 7	-	45%

(h) Inventories

Inventories are stated at the lower of cost and net realisable value, cost being determined on the average cost basis. Net realisable value is the estimate of selling price in the ordinary course of business, less the cost of selling expenses.

(i) Biological assets

Biological assets represent seeds in nurseries and seed gardens and are stated at cost as no reliable measure for determining fair value has been identified. Cost is determined as the accumulated cost of germination.

(j) Cash and cash equivalents

Cash and cash equivalents are carried in the statement of financial position at cost, and comprise cash at bank and in hand, and short-term investments.

Coconut Industry Board

Notes to the Financial Statements

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(k) Post-employment benefits

Pension plan benefits

The scheme is generally funded through payments to trustee-administered funds as determined by periodic actuarial calculations. A defined benefit plan is a pension plan that defines an amount of pension benefit to be provided, usually as a function of one or more factors such as age, years of service or compensation.

The asset or liability recognised in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at year end minus the fair value of plan assets. Any asset resulting from this calculation is limited to the present value of available refunds and reductions in future contributions to the fund. The defined benefit obligation is calculated annually by independent actuaries using the Projected Unit Credit Method. The present value of the defined benefit obligation is determined by estimating future cash outflows using interest rates on Government securities which have terms to maturity approximating the terms of the related liability.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income in the period in which they arise.

Past-service costs are recognised immediately in profit or loss.

Other post-employment benefits

The Board provides other post-employment benefits from a supplemental account. This account is funded by investment income arising from investments that have been allocated to this account. The method of accounting and the frequency of valuations are similar to the pension plan benefits described above.

Coconut Industry Board

Notes to the Financial Statements

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(l) Income recognition

Revenue

Revenue comprises the fair value of the consideration received or receivable for the sale of goods in the ordinary course of the Board's activities. Revenue is shown net of General Consumption Tax, returns, rebates and discounts and after eliminating sales within the Board.

Sales are recognised when the Board sells a product to the customer. Retail sales are usually by cash only. The Board sells coconut seedlings, coconuts and coconut-based products such as coconut water, oil and pastries.

Interest income

Interest income is recognised in the statement of comprehensive income on a time-proportion basis using the effective interest method.

Dividend income

Dividend income in the statement of comprehensive income is recognised when the right to receive payment is established.

3. Financial Risk Management

The Board's activities expose it to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk. The Board's overall financial risk management efforts seek to minimise potential adverse effects on the Board's financial performance arising mainly from market risk.

The Board's risk management policies are designed to identify and analyse these risks, to set appropriate risk limits and controls, and to monitor the risks and adherence to limits by means of reliable and up-to-date information systems. The Board periodically reviews its risk management policies and systems to reflect changes in markets, products and emerging best practice.

The members of the Board are ultimately responsible for the establishment and oversight of the risk management framework. The Board has established a Finance Committee for managing and monitoring financial risks, as well as to manage the Board's assets and liabilities and the overall financial structure. The Finance Committee is also primarily responsible for the funding and liquidity risks of the Board.

There has been no change to the Board's exposure to financial risk or the manner in which such risks are managed.

(a) Market risk

The Board experiences exposure to market risk, which is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risks mainly arise from changes in foreign currency exchange rates and interest rates. Market risk is monitored by the Board which reviews the price movement of financial assets.

Coconut Industry Board
Notes to the Financial Statements
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3. Financial Risk Management (Continued)

(a) Market risk (continued)

Currency risk
Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

The Board is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar. Foreign exchange risk arises primarily from the Board's cash and investments holdings.

The Board manages its foreign exchange risk by closely monitoring currency positions and seeking to maximise foreign currency earnings.

The table below summarises the Board's exposure to foreign currency exchange rate risk at year end.

	Jamaican J$'000	US$ J$'000	Total J$'000
		2019	
Financial Assets			
Non-current investments	5,026	13,068	18,094
Loans receivable	255	-	255
Receivables	74,092	-	74,092
Short-term investments	60,539	1,111,894	1,172,433
Cash at bank and in hand	7,568	11,118	18,686
Total financial assets	147,480	1,136,080	1,283,560
Financial Liabilities			
Payables	17,921	-	17,921
Coconut Windstorm Insurance Fund	71,388	-	71,388
Total financial liabilities	89,309	-	89,309
Net financial position	58,171	1,136,080	1,194,251

Coconut Industry Board

Notes to the Financial Statements
31 December 2019
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3. Financial Risk Management (Continued)

(a) Market risk (continued)

Currency risk (continued)

	Jamaican J$'000	US$ J$'000	Total J$'000
		2018	
Financial Assets			
Non-current investments	5,027	-	5,027
Loans receivables	286	363,437	363,723
Receivables	76,676	-	76,676
Short-term investments	97,092	670,300	767,392
Cash at bank and in hand	11,625	18,799	30,424
Total financial assets	190,706	1,052,536	1,243,242
Financial Liabilities			
Payables	12,216	-	12,216
Coconut Windstorm Insurance Fund	45,788	-	45,788
Total financial liabilities	58,004	-	58,004
Net financial position	132,702	1,052,536	1,185,238

Foreign currency sensitivity
The sensitivity analysis represents outstanding foreign currency denominated monetary items and adjusts their translation at the year-end for changes in foreign currency rates. The change in currency rate below represents management's assessment of the possible change in foreign exchange rates. The sensitivity of the net surplus is attributable to the Board's cash and cash equivalents and investments.

If at 31 December 2019, the Jamaican dollar strengthened/weakened by 4%/(6%) (2018 – 2%/(4%) against the US dollar, with all other variables held constant, net surplus would have (decreased)/increased by approximately ($45,443,000)/$68,165,000 (2018 – ($21,051,000)/$42,102,000). The percentage represents management's assessment of the possible range of changes in the rate of exchange to the US dollar.

Interest rate risk
Interest rate risk is the risk that the value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Fixed interest rate instruments expose the Board to fair value interest risk on its financial assets. Floating rate instruments expose the Board to cash flow interest risk. The Board's interest rate risk policy requires it to manage interest rate risk by maintaining a balanced investment portfolio.

Coconut Industry Board

Notes to the Financial Statements

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

3. Financial Risk Management (Continued)

(a) Market risk (continued)

Interest rate risk (continued)

The following table summarises the Board's exposure to interest rate risk on its financial assets. It includes the Board's financial instruments at carrying amounts, categorised by the earlier of contractual repricing or maturity dates. The Board has no interest-bearing liabilities.

	Within 1 Month $'000	1 to 3 Months $'000	3 to 12 Months $'000	1 to 5 Years $'000	Over 5 Years $'000	Non-Interest Bearing $'000	Total $'000
				2019			
Non-current investments	-	-	-	17,991	-	103	18,094
Loans receivable	-	-	-	255	-	-	255
Receivables	-	-	-	-	-	74,092	74,092
Short-term investments	581,283	576,095	10,000	-	-	5,055	1,172,433
Cash at bank and in hand	-	-	-	-	-	18,686	18,686
Total financial assets	581,283	576,095	10,000		-	97,936	1,283,560

	Within 1 Month $'000	1 to 3 Months $'000	3 to 12 Months $'000	1 to 5 Years $'000	Over 5 Years $'000	Non-Interest Bearing $'000	Total $'000
				2018			
Non-current investments	-	-	-	5,000	-	27	5,027
Loans receivable	-	-	363,441	-	282	-	363,723
Receivables	-	-	-	-	-	76,676	76,676
Short-term investments	325,420	440,210	-	-	-	1,762	767,392
Cash at bank and in hand	-	-	-	-	-	30,424	30,424
Total financial assets	325,420	440,210	363,441	5,000	282	108,889	1,243,242

Coconut Industry Board

Notes to the Financial Statements

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

3. Financial Risk Management (Continued)

(a) Market risk (continued)

Interest rate risk (continued)

Interest rate sensitivity

The following table indicates the sensitivity to a reasonably possible change in interest rates, with all other variables held constant, on the Board's net surplus and equity.

The sensitivity of the profit or loss is the effect of the assumed changes in interest rates on net income based on the floating rate non-trading financial assets and financial liabilities. The sensitivity of equity is calculated by revaluing fixed rate financial assets at fair value through OCI for the effects of the assumed changes in interest rates. The correlation of variables will have a significant effect in determining the ultimate impact on market risk, but to demonstrate the impact due to changes in variable, variables had to be on an individual basis. It should be noted that movements in these variables are non-linear.

United States dollar:	Effect on Net Surplus 2019 $'000	Effect on Equity 2019 $'000	Effect on Net Surplus 2018 $'000	Effect on Equity 2018 $'000
Change in basis points:				
-50 (2018: -50)	-	-	-	163
+50 (2018: +50)	-	-	-	(165)

Jamaican dollar:	Effect on Net Surplus 2019 $'000	Effect on Equity 2019 $'000	Effect on Net Surplus 2018 $'000	Effect on Equity 2018 $'000
Change in basis points:				
-100 (2018: -100)	-	-	(50)	2
+100 (2018: +100)	-	-	50	(2)

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3. Financial Risk Management (Continued)

(a) Market risk (continued)

Interest rate risk (continued)

The following tables summarises the weighted average interest rate on the Board's financial assets.

	Jamaican$ %	US$ %
	2019	
Non-current investments	7.25	7.25
Loans receivable	7.00	-
Short-term investments	2.06	2.84
Cash at bank and in hand	0.75	0.10
	2018	
Non-current investments	7.25	-
Loans receivable	7.00	3.00
Short-term investments	2.66	2.21
Cash at bank and in hand	0.75	0.12

(b) Credit risk

The Board takes on exposure to credit risk, which is the risk that its counterparties will cause a financial loss for the Board by failing to discharge their contractual obligations. Credit exposures arise principally from the Board's investment activities. The Board structures the levels of credit risk it undertakes by placing limits on the amount of risk accepted in relation to a single counterparty.

The Board establishes an allowance for impairment that represents its estimate of incurred losses in respect of investments, loans and receivables. The Board addresses impairment assessment in two areas: individually assessed allowances and collectively assessed allowances.

The Board limits its exposure to credit risk by investing mainly in liquid securities, with counterparties that have high credit quality and Government of Jamaica securities. Accordingly, management does not expect any counterparty to fail to meet its obligations. At year end, all investment securities are either held directly with the Government of Jamaica or secured by instruments issued by the Government of Jamaica.

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3. Financial Risk Management (Continued)

(b) Credit risk (continued)

Maximum exposure to credit risk:

	2019	2018
	$'000	$'000
Investment securities-		
Non-current investments	18,094	5,027
Short-term investments	1,172,433	767,392
Loans receivable	255	363,723
Receivables	74,092	76,676
Cash at bank and in hand	18,234	29,870
	1,283,108	1,242,688

(c) Liquidity risk

Liquidity risk is the risk that the Board is unable to meet its payment obligations associated with its financial liabilities when they fall due. Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed credit facilities and the ability to close out market positions. Liquidity risk is not usually significant for the Board.

Liquidity risk management process

The Board's liquidity management process includes:

(i) Monitoring future cash flows and liquidity on a daily basis. This incorporates an assessment of expected cash flows and the availability of high-grade collateral which could be used to secure funding if required;

(ii) Maintaining a portfolio of highly marketable and diverse assets that can easily be liquidated as protection against any unforeseen interruption to cash flows; and

(iii)Optimising cash returns on investments.

Financial liabilities and assets held for managing liquidity risk

Financial liabilities are due within three months. The Board has sufficient financial assets to cover financial liabilities that arise in the course of normal operations.

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3. Financial Risk Management (Continued)

(d) Capital management

The Board's objectives when managing capital are to safeguard the Board's ability to continue as a going concern in order to conduct research on the agricultural problems in the industry and to provide assistance to coconut growers to market their crops. There were no changes to the Board's approach to capital management during the year.

(e) Fair value estimation

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

The carrying values of loans receivable, receivables less impairment provision, short-term investments, balances with Coconut Windstorm Insurance Fund and payables are assumed to approximate their fair values due to the short-term maturity of these instruments.

4. Critical Accounting Judgements and Key Sources of Estimation Uncertainty

Judgements and estimates are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

(a) Critical judgements in applying the Board's accounting policies

In the process of applying the Board's accounting policies, management has made no judgements which it believes presents a significant risk of material misstatement to the amounts recognised in the financial statements.

(b) Key sources of estimation uncertainty

The Board makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

Post-employment benefits

The cost of these benefits and the present value of the future obligations depend on a number of factors that are determined by actuaries using a number of assumptions. The assumptions used in determining the net periodic cost or income for retirement benefits include the expected long-term rate of return on the relevant plan assets, the discount rate, and, in the case of health benefits, the expected rate of increase in health costs. Any changes in these assumptions will impact the net periodic cost or income recorded for retirement benefits and may affect planned funding of the pension plan. The expected return on plan assets assumption is determined on a uniform basis, considering long-term historical returns, asset allocation and future estimates of long-term investment returns.

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5. Other Operating Income

	2019 $'000	2018 $'000
Interest income	34,509	27,073
Miscellaneous income	5,923	2,092
Foreign exchange gain	32,779	18,422
	73,211	47,587

6. Expenses by Nature

Total direct, administration and other operating expenses:

	2019 $'000	2018 $'000
Auditor's remuneration		
Current year	2,728	2,695
Prior year under accrual	-	962
Cost of inventories recognised as expense	115,804	132,540
Cost of nursery and seeds garden operation	30,897	18,352
Depreciation (Note 8)	15,313	12,528
Field works experiment	2,730	2,706
Insurance	735	753
Lethal yellowing research costs	4,052	3,593
Motor vehicle expenses	17,368	18,652
Repairs and maintenance	8,468	9,859
Seedling planting programme	13,878	15,377
Special projects	2,724	2,672
Staff costs (Note 7)	103,688	115,613
Subsidy on seedlings	303	458
Telephone, postage and telegram	1,130	1,123
Travelling	6,630	7,460
Utilities	6,413	7,126
Other expenses	13,222	21,624
	346,083	374,093

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7. Staff Costs

	2019 $'000	2018 $'000
Wages and salaries	68,828	78,228
Statutory contributions	5,557	5,969
Pension costs (Note 24)	7,700	7,100
Other post-employment benefits (Note 24)	11,800	14,100
Other	9,803	10,216
	103,688	115,613

8. Property, Plant and Equipment

	2019							
	Freehold Land	Freehold Buildings	Research Library Stock	Furniture Fixtures & Equipment	Motor Vehicles	Irrigation Equipment	Fence Improvement	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Cost -								
At 1 January 2019	7,121	22,632	1,116	37,758	89,667	3,021	164	161,479
Additions	-	4,892	-	2,805	20,059	-	-	27,756
Disposals	-	-	-	(341)	(17,911)	-	-	(18,252)
At 31 December 2019	7,121	27,524	1,116	40,222	91,815	3,021	164	170,983
Accumulated Depreciation -								
At 1 January 2019	-	8,080	1,091	27,051	61,548	2,155	101	100,026
Charge for the year	-	570	-	1,873	12,721	149	-	15,313
Relieved on disposals	-	-	-	(272)	(17,911)	-	-	(18,183)
At 31 December 2019	-	8,650	1,091	28,652	56,358	2,304	101	97,156
Net Book Value -								
At 31 December 2019	7,121	18,874	25	11,570	35,457	717	63	73,827

Coconut Industry Board

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8. Property, Plant and Equipment (Continued)

	2018							
	Freehold Land	Freehold Buildings	Research Library Stock	Furniture Fixtures & Equipment	Motor Vehicles	Irrigation Equipment	Fence Improvement	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Cost -								
At 1 January 2018	7,121	22,247	1,116	33,784	83,077	3,021	164	150,530
Additions	-	385	-	4,293	10,608	-	-	15,286
Disposals	-	-	-	(319)	(4,018)	-	-	(4,337)
At 31 December 2018	7,121	22,632	1,116	37,758	89,667	3,021	164	161,479
Accumulated Depreciation -								
At 1 January 2018	-	7,515	1,091	25,748	55,364	2,006	101	91,825
Charge for the year	-	565	-	1,612	10,202	149	-	12,528
Relieved on disposals	-	-	-	(310)	(4,018)	-	-	(4,328)
At 31 December 2018	-	8,080	1,091	27,050	61,548	2,155	101	100,025
Net Book Value -								
At 31 December 2018	7,121	14,552	25	10,708	28,119	866	63	61,454

9. Investment in Associated Company

	2019 $'000	2018 $'000
At the beginning of the year	3,285,048	2,851,261
Share of profits	216,840	327,444
Gain on dilution of shares	-	241,148
Dividends income	(163,423)	(155,275)
Movement in other reserves	(3,380)	20,470
At end of year	3,335,085	3,285,048

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9. Investment in Associated Company (Continued)

Movement in other reserves is broken down as follows:

	2019 $'000	2018 $'000
Re-measurement of post-employment benefit obligations	(2,150)	2,206
Unrealised fair value gains/(losses) on investments	23,139	18,264
Effects of new accounting standards	(18,590)	-
Acquisition of NCI	(5,779)	-
	(3,380)	20,470

At an extraordinary general meeting of the associated company held on 9 April 2018, the stockholders agreed to an increase in the stock units of the company by the creation of 250,000,000 new ordinary stock units. In October 2018, the company issued 217,149,000 of these units as part consideration for a business combination transaction. Based on this the stockholdings of the Board were reduced to 22.28% for the year ended 31 December 2018.

Seprod Limited has share capital consisting solely of ordinary stock units, these are held directly by the Board; the Company is incorporated and domiciled in Jamaica and is listed on the Jamaica Stock Exchange. The carrying value and the quoted fair values indicated by prices quoted on the Jamaica Stock Exchange ("JSE Indicative Value") as at 31 December were as follows:

	Carrying Value		Quoted Fair Value	
	2019 $'000	2018 $'000	2019 $'000	2018 $'000
Seprod Limited -				
163,420,345 (2018– 163,420,345) stock units	3,335,085	3,285,048	8,331,169	4,896,074

This investment represents 22.28% (2018 - 22.28%) of the issued share capital of Seprod Limited. There are no contingent liabilities relating to the Board's interest in Seprod Limited.

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9. Investment in Associated Company (Continued)

Summarised financial information for associate

Set out below is the summarised information for Seprod Limited which is accounted for using the equity method.

Summarised statement of financial position

	2019	2018
	$'000	$'000
Current assets	14,433,174	14,610,850
Non-current assets	22,065,366	20,687,514
	36,498,540	35,298,364
Current liabilities	(7,453,674)	(8,565,255)
Non-current liabilities	(14,074,629)	(11,987,487)
	(21,528,303)	(20,552,742)
Net Asset	14,970,237	14,745,622

Summarised statement of comprehensive income

	2019	2018
	$'000	$'000
Revenue	32,694,821	23,553,769
Other income	1,396,521	903,356
	34,091,342	24,457,125
Direct expenses	(23,894,709)	(16,498,200)
Selling, administrative and other operating expenses	(8,068,607)	(5,729,087)
Operating Profit	2,128,026	2,229,838
Finance costs	(1,472,947)	(789,026)
Profit before Taxation	655,079	1,440,812
Taxation	318,255	(378,757)
Net Profit	973,334	1,062,055
Other comprehensive income	94,216	59,350
Total Comprehensive Income	1,067,550	1,121,405

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9. Investment in Associated Company (Continued)

Reconciliation of summarised financial information

	2019 $'000	2018 $'000
Opening net assets		
1 January	14,745,622	9,009,812
Profit for the period	973,334	1,062,055
Other comprehensive income	94,216	59,350
Issue of ordinary stock units	-	5,208,170
Dividends paid	(733,557)	(588,295)
Effects of adoption of new accounting standards	(83,437)	(5,470)
Acquisition of NCI	(25,941)	-
Closing net assets	14,970,237	14,745,622
Carrying value - interest in associate – 22.28%	3,335,085	3,285,048

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10. Investments

	2019 $'000	2018 $'000
Non-current assets -		
Corporate bonds	18,094	5,027
Current assets -		
Corporate bonds	10,092	12,589
Reverse repurchase agreements	1,162,341	754,803
	1,172,433	767,392
	1,190,527	772,419

(a) Interest receivable on investments amounted to $4,870,000 (2018- $1,789,000). The effective weighted average interest rates on investments are 2.91% (2018 – 2.84%) and 3.14% (2018 – 2.21%) on Jamaican dollar and United States dollar investments respectively.

(b) Investments have been allocated as follows:

	2019 $'000	2018 $'000
Capital Fund (Note 19)	282,269	281,572
Coconut Replanting Fund (Note 22)	202,961	199,746
Staff Contingency Fund	152,876	143,612
Coconut Industry Board	552,421	147,489
	1,190,527	772,419

(c) Short-term investments

Short-term investments comprise Government of Jamaica Local Registered Stock held under participation agreements/reverse repurchase agreements which mature in less than 90 days. Due to the short-term nature of the instruments, they are regarded as cash equivalents for the purposes of the statement of cash flows. Interest receivable on short term investments amounted to $4,767,000 (2018 - $1,762,000).

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10. Investments (Continued)

(c) Short-term investments (continued)

Short-term investments have been allocated as follows:

Capital Fund

	2019 $'000	2018 $'000
Barita Investments Limited	120,383	126,034
First Caribbean International Bank Jamaica Limited	-	-
Jamaica Money Market Brokers Limited	86,477	77,936
NCB Capital Markets Limited	74,413	76,895
Interest receivable	996	707
	282,269	281,572

Coconut Replanting Fund

	2019 $'000	2018 $'000
Barita Investments Limited	32,553	31,063
Proven Wealth Limited	3,970	3,748
Jamaica Money Market Brokers Limited	117,247	111,911
NCB Capital Markets Limited	47,803	52,640
Scotia Investments Limited	-	-
First Caribbean International Securities Limited	-	-
Interest receivable	1,388	384
	202,961	199,746

Staff Contingency Fund

	2019 $'000	2018 $'000
Barita Investments Limited	29,385	30,194
Proven Wealth Limited	11,127	10,505
Jamaica Money Market Brokers Limited	3,783	3,886
NCB Capital Markets Limited	103,123	93,751
Scotia Investments Limited	-	-
First Caribbean International Securities Limited	-	-
Interest receivable	432	249
	147,850	138,585

Coconut Industry Board

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10. Investments (Continued)

(c) Short-term investments (continued)

Coconut Industry Board

	2019 $'000	2018 $'000
Jamaica Money Market Brokers Limited	271,440	45,204
Barita Investments Limited	22,320	-
NCB Capital Markets Limited	243,642	101,836
Interest receivable	1,951	449
	539,353	147,489
Total short-term investments	1,172,433	767,392

11. Loans Receivable

Loans were disbursed from:

	2019 $'000	2018 $'000
The Board's working capital		
(i) Loan to associated company	-	363,437
(ii) Computer revolving loan	4	4
Capital Fund (Note 19)	251	282
	255	363,723

(i) On 17 November 2016, the Board lent US$2,886,855 to Seprod Limited, an associated company. The principal was due for repayment at the maturity date, 28 November 2018 and attracted a fixed interest rate of 3% per annum, which is payable quarterly. However, the loan was not repaid at maturity and the Board granted the associated company an extension until 30 June 2019. The loan was fully repaid during the current period.

(ii) The Board holds first lien on assets purchased with loans made to employees. The balance is repayable up to the time of termination or retirement. The weighted average interest rate is 7%.

12. Deferred Expenditure

Comprising expenditure incurred on seed garden projects:

	2019 $'000	2018 $'000
Balance as at the beginning of the year	8,890	7,569
Additions during the year	2,412	2,153
Write-offs during the year	(231)	(832)
Balance as at the end of the year	11,071	8,890

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13. Inventories

	2019 $'000	2018 $'000
Bags, pesticides, weedicides and miscellaneous items	5,545	5,915

14. Biological Assets

	2019 $'000	2018 $'000
Seeds in nurseries	17,148	18,680

15. Receivables

	2019 $'000	2018 $'000
Withholding tax	93,819	55,036
General Consumption Tax recoverable	1,196	1,196
Prepayments	1,009	1,072
Staff loans	984	805
Dividends receivable	69,454	73,464
Other	3,654	2,407
	170,116	133,980

16. Cash at Bank and in Hand

	2019 $'000	2018 $'000
Cash at bank	18,234	29,870
Petty cash	452	554
	18,686	30,424

17. Payables

	2019 $'000	2018 $'000
Accruals	7,629	8,401
Other	10,292	3,815
	17,921	12,216

Coconut Industry Board

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18. Capital Surplus

	2019 $'000	2018 $'000
Capital distribution received	6,158	6,158
Coconut Lethal Yellowing Fund	702	702
Copra Production Acceleration Fund	3,750	3,750
Donation of equipment	1,790	1,790
Donation of motor vehicle	5	5
Gain on disposal of stock units	14,018	14,018
Share of reserves of associated company	489,522	490,752
Surplus on disposal of premises	3	3
	515,948	517,178

19. Capital Fund

(a) Effective 1 January 1993, a Capital Fund was established by the Board for the purpose of holding proceeds from the sale of shares and income from capital distributions. The income arising from investments allocated to the Capital Fund, less any authorised expenditure is transferred to this account on an annual basis.

This balance is represented by:

	2019 $'000	2018 $'000
Short term investments (Note 10)	282,269	281,572
Investment in associate	9,370	9,340
Loans receivable (Note 11)	251	282
Receivables -		
Withholding tax recoverable	9,044	7,313
	300,934	298,507

(b) Transfer from/(to) income and expenditure account

	2019 $'000	2018 $'000
Interest and investment income	14,239	10,134
Less: Authorised expenditure	(11,812)	(127,497)
	2,427	(117,363)

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20. Fair Value Reserve

	2019 $'000	2018 $'000
Balance at beginning of year	8,880	8,880
Transfer to accumulated surplus	(8,880)	-
Balance at end of year	-	8,880

All the Board's investments are carried at amortised cost based on the business model as discussed in Note 2(f). Therefore, the amount previously held in the fair value reserve were transferred to accumulated surplus.

21. Staff Contingency Fund

(a) This fund was established in 1996 with money the Board received from a surplus, determined by qualified actuary, in the Seprod et al pension scheme, to which the Coconut Industry Board and its employees have been contributors from its inception. The fund which was originally intended to be used to supplement the pension of a specified category of Board's employees was renamed to reflect its true purpose of providing assistance to staff in certain circumstances. Income arising from investment of this fund, less any authorised expenditure, is transferred to this account on an annual basis.

	2019 $'000	2018 $'000
Non-current investment	5,026	5,027
Short term investments (Note 10)	147,850	138,585
	152,876	143,612
Receivables -		
Withholding tax recoverable	6,220	5,644
Supplementary Fund - Pension and health benefits	34,410	24,510
	193,506	173,766
Less: Post-employment benefits	(146,100)	(136,200)
	47,406	37,566

(b) Transfer from/(to) income and expenditure account

	2019 $'000	2018 $'000
Interest and investment income	6,926	4,972
(Less)/add:		
Decrease in post-employment benefit obligation	(9,400)	(22,900)
Authorised income/(expenditure)	12,314	(16,330)
	9,840	(34,258)

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22. Coconut Replanting Fund

(a) This fund was established in 2003 for the purpose of ensuring that adequate financing will be available for coconut replanting programmes which are crucial to the survival of the local coconut industry. Income arising from the investments allocated to this fund less authorised expenditure, which includes amounts expended for coconut seedlings, fertilizer and weed control grants to farmers participating in the programmes, is credited to this account.

This balance is represented by:

	2019 $'000	2018 $'000
Short term investments (Note 10)	202,961	199,746
Receivables -		
Withholding tax recoverable	6,185	5,464
	209,146	205,210

(b) Transfer from/(to) income and expenditure account

	2019 $'000	2018 $'000
Interest and investment income	11,298	7,251
Less: Authorised expenditure	(7,362)	(29,485)
	3,936	(22,234)

23. Reserve

(a) The reserve account include general reserves of $20,000 (2018: - $20,000). These balances below represent the surplus on operations of the Coconut Industry Clearing House, which was transferred to the Coconut Industry Board in 1945.

(b) Accumulated surplus is represented as follows:

	2019 $'000	2018 $'000
The Board	526,752	636,003
Associated company	3,042,365	2,825,525
	3,569,117	3,460,188

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24. Post-employment Benefits

	2019 $'000	2018 $'000
Amounts recognised in the statement of financial position -		
Pension plan benefits	55,700	41,200
Other post-employment obligation	(132,500)	(136,200)
Prior period adjustment – Other post-employment obligation	(13,600)	-
	(90,400)	(95,000)
Amounts recognised in profit or loss -		
Pension plan benefits	7,700	7,100
Other post-employment benefits	11,800	14,100
Prior period adjustment – Other post-employment obligation	400	-
Amounts recognised in other comprehensive income -		
Pension plan benefits	(19,700)	(17,400)
Other post-employment benefits	(9,400)	(22,900)
Prior period adjustment – Other post-employment obligation	13,200	-

Pension plan benefits

The Board participates in the Seprod et al Scheme, a benefit-based pension scheme operated by Seprod Limited and approved organisations. The scheme provides benefits to members based on average earnings for the final 2 years of service. Employees are required to contribute 5% of pensionable salary; the Board makes contributions at rates recommended by independent actuaries, which is currently set at 5% of pensionable salary. The scheme is valued by independent actuaries annually using the Projected Unit Credit Method. The latest actuarial valuation was carried out as at 31 December 2019.

The amounts recognised in the statement of financial position were determined as follows:

	2019 $'000	2018 $'000
Fair value of plan assets	(532,000)	(442,300)
Unrecognised amount due to limitation (asset ceiling)	71,400	-
Present value of funded obligations	404,900	401,100
Asset in the statement of financial position	(55,700)	(41,200)

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24. Post-employment Benefits (Continued)

Pension plan benefits (continued)

The amounts recognised in the statement of comprehensive income were as follows:

	2019 $'000	2018 $'000
Current service cost	6,500	5,900
Interest cost	28,400	28,900
Interest income on plan assets	(30,800)	(30,600)
Administration expenses	3,600	2,900
Included in staff costs (Note 7)	7,700	7,100

The movement in the defined benefit asset during the year was as follows:

	2019 $'000	2018 $'000
At beginning of year	(41,200)	(28,100)
Amounts recognised in profit or loss in the statement of comprehensive income	7,700	7,100
Amounts recognised in other comprehensive income	(19,700)	(17,400)
Contributions paid	(2,500)	(2,800)
Asset at end of year	(55,700)	(41,200)

The movement in the fair value of plan assets during the year was as follows:

	2019 $'000	2018 $'000
At beginning of year	442,300	388,500
Interest income on plan assets	30,800	30,600
Administration expense	(3,600)	(2,900)
Re-measurement recognised on obligation	64,800	36,400
Contributions	7,300	8,000
Benefits paid	(9,600)	(18,300)
At end of year	532,000	442,300

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24. Post-employment Benefits (Continued)

Pension plan benefits (continued)

The movement in the present value of the defined benefit obligation during the year was as follows:

	2019 $'000	2018 $'000
At beginning of year	401,100	360,400
Current service cost	9,000	8,700
Interest cost	28,400	28,900
Re-measurement gains on obligation	(26,200)	19,000
Benefits paid	(9,600)	(18,300)
Voluntary contribution	2,200	2,400
At end of year	404,900	401,100

As at the last valuation date, 31 December 2019, the present value of the defined benefit obligation was comprised of approximately $289,100,000 relating to active employees, $115,800,000 relating to members in retirement.

Expected contributions to the plan for the year ending 31 December 2020 is approximately $1,792,000.

The distribution of plan assets was as follows:

	2019 %	2018 %
Quoted equities	47.2	39.5
Real estate	3.5	7.2
Government of Jamaica securities	-	25.2
Fixed income instruments	46.2	-
Repurchase agreements	-	5.9
Promissory notes	-	6.8
Corporate bonds	-	12.3
Other	3.1	3.1
	100.0	100.0

Coconut Industry Board
Notes to the Financial Statements
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24. Post-employment Benefits (Continued)

Pension plan benefits (continued)

The sensitivity of the defined benefit obligation to changes in the weighted principal assumptions is:

		Impact on Post-employment obligations	
	Change in Assumption	Increase in Assumption	Decrease in Assumption
		$'000	$'000
Discount rate	0.5%	(19,600)	21,800
Future salary increases	0.5%	3,600	(3,500)
Pension increase	0.5%	17,900	(16,400)

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the pension liability recognised within the statement of financial position.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the previous period.

Other post-employment obligations

In addition to pension benefits described above, the Board provides supplementary pension benefits and retiree medical insurance benefits. The Board decided, on 27 February 2001, that members employed prior to 1995 who retire with at least 15 years of service with the Board up to 1 January 1995, will have their prior period of service recognised, will receive benefits calculated as 2% x annual salary at retirement x service with the Board (subject to a maximum of two-thirds of the employee's final annual salary), less the annual pension payable from the Seprod Fund. The method of accounting and the frequency of valuations are similar to those used for the defined benefit pension scheme described above. The liability recognised in the statement of financial position was determined as follows:

	2019 $'000	2018 $'000
Present value of unfunded obligations	146,100	136,200

The Board has earmarked certain investments for the purpose of funding the obligation arising from these benefits. These investments are allocated to the Staff Contingency Fund as disclosed in Notes 10 and 21 of the financial statements.

Coconut Industry Board
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24. Post-employment Benefits (Continued)

Other post-employment obligations (continued)

The movement in the present value of the defined benefit obligation during the year was as follows:

	2019 $'000	2018 $'000
At beginning of year	136,200	151,100
Current service cost	1,400	2,100
Interest cost	10,400	12,000
Benefits paid	(6,100)	(6,100)
Re-measurement recognised on obligation - current	(9,400)	(22,900)
Re-measurement recognised on obligation – prior year	13,600	-
At end of year	146,100	136,200

The amounts recognised in the statement of comprehensive income are as follows:

	2019 $'000	2018 $'000
Current service cost	1,400	2,100
Interest cost	10,400	12,000
Included in staff costs (Note 7)	11,800	14,100
Interest income on plan asset	(10,700)	(11,700)
Net cost recognised in statement of comprehensive income	1,100	2,400

The effects of a 0.5% movement in the post-employment health care cost were as follows:

		Impact on Post-employment obligations	
	Change in Assumption	Increase in Assumption	Decrease in Assumption
		$'000	$'000
Discount rate	0.5%	(9,300)	10,400
Medical cost increase	0.5%	(10,400)	9,300

Coconut Industry Board

Notes to the Financial Statements
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24. Post-employment Benefits (Continued)

Other post-employment obligations (continued)

Principal actuarial assumptions used in valuing post-employment benefits

The principal actuarial assumptions used were as follows:

	2019	2018
Discount rate	7.50%	7.00%
Future salary increases	5.00%	4.00%
Future pension increases	0.00%	0.00%
Medical cost trend rate	6.50%	5.50%

Risks associated with pension plans and post-employment plans

Through its defined benefit pension plans and post-employment medical plans, the Board is exposed to a number of risks, the most significant of which are detailed below:

Asset volatility

The plan liabilities are calculated using a discount rate set with reference to Government of Jamaica bond yields; if plan assets underperform this yield, this will create a deficit.

As the plan matures, the Board intends to reduce the level of investment risk by investing more in assets that better match the liabilities. The Government bonds represent investments in Government of Jamaica securities.

The Board believes that due to the long-term nature of the plan liabilities, a level of continuing equity investment is an appropriate element of the Board's long-term strategy to manage the plans efficiently. See below for more details on the Board's asset-liability matching strategy.

Changes in bond yields

A decrease in Government of Jamaica bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.

Inflation risk

Higher inflation will lead to higher liabilities. The majority of the plan's assets are either unaffected by fixed interest bonds, meaning that an increase in inflation will reduce the surplus or create a deficit.

Life expectancy

The majority of the plan's obligations are to provide benefits for the life of the member, so increases in life expectancy will result in an increase in the plan's liabilities. This is particularly significant, where inflationary increases result in higher sensitivity to changes in life expectancy.

Coconut Industry Board

Notes to the Financial Statements

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24. Post-employment Benefits (Continued)

Risks associated with pension plans and post-employment plans (continued)

The responsibility for the management of the assets of the Fund is vested in the Board of Trustees and NCB Insurance Company Limited representatives who are the fund and investment managers. They ensure that the investment positions are managed within an asset-liability matching (ALM) framework that has been developed to achieve long-term investments that are in line with the obligations under the pension fund. Within this framework, the Fund's ALM objective is to match assets to the pension obligations by investing in long-term fixed interest securities with maturities that match the benefit payments as they fall due. The Fund actively monitors how the duration and the expected yield of the investments are matching the expected cash outflows arising from the pension obligations. The Fund has not changed the processes used to manage its risks from previous periods. The Fund does not use derivatives to manage its risk. Investments are well diversified, such that the failure of any single investment would not have a material impact on the overall level of assets. A large portion of assets in both 2019 and 2018 consists of bonds, equities and real estate.

Funding levels are monitored on an annual basis and the current agreed contribution rate is 5% of pensionable salaries. The next triennial valuation is due to be completed as at 31 August 2020. The Company considers that the contribution rates set at the last valuation date to be sufficient to prevent a deficit and that regular contributions, which are based on service costs, will not increase significantly.

The weighted average duration of the defined benefit obligation is 13 years for the pension fund and 13 years for the post-employment medical benefits.

25. Related Party Balances and Transactions

(a) Year-end balances arising from transactions with related parties:

	2019 $'000	2018 $'000
Dividend receivable -		
Seprod Limited (Associated company)	69,454	73,464
Payables -		
Coconut Windstorm Insurance Fund	71,388	45,788

Coconut Industry Board

Notes to the Financial Statements

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25. Related Party Balances and Transactions (Continued)

The following transactions were carried out with related parties:

(b) Purchases of goods/services:

	2019 $'000	2018 $'000
Purchases of goods -		
Directors	66,096	63,025
Insurance expense -		
Coconut Windstorm Insurance Fund	889	862

(c) Other transaction:

	2019 $'000	2018 $'000
Dividends received -		
Seprod Limited (Associated company)	131,962	81,811

(d) Key management compensation:

	2019 $'000	2018 $'000
Salaries and other short-term employee benefits	17,642	19,874
Statutory contributions	1,092	1,203
Pension benefits	636	745
	19,370	21,822
Directors' emoluments –		
Fees	2,263	3,124

26. Subsequent Event

Beginning in January 2020, global financial markets have experienced and may continue to experience significant volatility resulting from the spread of a novel coronavirus known as COVID-19. The outbreak of COVID-19 has resulted in travel and border restrictions, quarantines, supply chain disruptions, lower consumer demand and general market uncertainty. The Board has experienced an overall increase in revenues since the declaration by the WHO and the confirmation of the first case of the coronavirus in Jamaica in March 2020. Based on the nature of the Board's activities, management is of the view that the Boards's revenues and profitability will be sustained during the period impacted by the coronavirus and beyond. Consequently, management continues to believe that the going concern presumption remains appropriate for these financial statements.

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Independent auditor's report

To the Members of Coconut Windstorm Insurance Fund

Report on the audit of the financial statements

Our opinion

In our opinion, the financial statements give a true and fair view of the financial position of Coconut Windstorm Insurance Fund (the Fund) as at 31 December 2019, and of its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards.

What we have audited

The Fund's financial statements comprise:

- the statement of financial position as at 31 December 2019;
- the statement of comprehensive income for the year then ended;
- the statement of changes in equity for the year then ended;
- the statement of cash flows for the year then ended; and
- the notes to the financial statements, which include a summary of significant accounting policies.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Fund in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code). We have fulfilled our other ethical responsibilities in accordance with the IESBA Code.

Responsibilities of management for the financial statements

Management is responsible for the preparation of the financial statements that give a true and fair view in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Fund's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Fund or to cease operations, or has no realistic alternative but to do so.

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Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Fund's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Fund to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

PricewaterhouseCoopers

Chartered Accountants
5 August 2020
Kingston, Jamaica

Coconut Industry Board

Coconut Windstorm Insurance Fund

Statement of Comprehensive Income

Year ended 31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	2019 $'000	2018 $'000
Income		
Contractual insurance premiums	3,424	3,396
Interest	7,483	7,443
	10,907	10,839
Expenditure		
Audit fees	308	193
Telephone, postage and telegrams	84	80
Salaries and management fees	100	123
Stationery and general expenses	83	75
	575	471
Net Surplus, being Total Comprehensive Income	10,332	10,368
Accumulated surplus at beginning of year	219,492	209,124
Accumulated Surplus	229,824	219,492

Coconut Industry Board

Coconut Windstorm Insurance Fund

Statement of Financial Position

31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	Note	2019 $'000	2018 $'000
Current Assets			
Sundry debtors	4	8,762	8,962
Short term investments	6	149,642	164,741
Coconut Industry Board		71,398	45,788
Cash at bank		23	2
		229,825	219,493
Current Liability			
Payables		1	1
Net Current Assets		229,824	219,492
Accumulated Surplus		229,824	219,492

Approved for issue by the Board of Directors on July 27, 2020 and signed on its behalf by:

Christopher Gentles — Director

Nicholas Jones — Director

Coconut Industry Board

Coconut Windstorm Insurance Fund

Statement of Changes in Equity

Year ended 31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	Accumulated Surplus $'000	Total $'000
Balance at 1 January 2018	209,124	209,124
Net surplus for the year	10,368	10,368
Balance at 31 December 2018	219,492	219,492
Net surplus for the year	10,332	10,332
Balance at 31 December 2019	229,824	229,824

Coconut Industry Board

Coconut Windstorm Insurance Fund

Statement of Cash Flows

Year ended 31 December 2019

(expressed in Jamaican dollars unless otherwise indicated)

	2019	2018
	$'000	$'000
Cash Flows from Operating Activities		
Net surplus	10,332	10,368
Adjusted for:		
Interest income	(7,483)	(7,443)
	2,849	2,925
Changes in operating assets and liabilities		
Sundry debtors	199	1,420
Provided to Coconut Industry Board	(25,609)	(32,828)
Net cash (used in)/provided by operating activities	(22,561)	(28,483)
Cash Flows from Investing Activity		
Interest received	7,483	7,443
Cash provided by investing activity	7,483	7,443
Decrease in cash and cash equivalents	(15,078)	(21,040)
Cash and cash equivalents at beginning of year	164,743	185,783
Cash and Cash Equivalents at End of Year	149,665	164,743
Comprising:		
Cash at bank and in hand	23	2
Short-term investments	149,642	164,741
	149,665	164,743

Coconut Industry Board
Coconut Windstorm Insurance Fund
Notes to the Financial Statements
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1. General

The Coconut Windstorm Insurance Fund ("The Fund") was established pursuant to the Coconut Insurance Act, for the operation by the Coconut Industry Board ("The Board") of a scheme for the automatic insurance and contractual insurance of coconut trees against the risk of windstorm damage. Provisions relating to qualification for, and determination and payment of benefits are contained in the Coconut Windstorm Insurance Regulations, 1949.

All moneys forming part of the fund are to be invested, in such manner as the Board may decide, in public securities of Jamaica or of any Commonwealth country, or in any securities which are lawful for the investment of trustee funds, or placed on deposit in such bank or banks as the Board may direct.

The Board may affect such reinsurance in respect of the whole or any part of the potential liability incurred by the Fund at such rates and upon such conditions as it thinks fit.

2. Significant Accounting Policies

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(a) Basis of preparation

These financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) and have been prepared under the historical cost convention as modified by the revaluation of certain financial assets.

The preparation of financial statements in conformity with IFRSs requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Board's accounting policies. Although these estimates are based on management's best knowledge of current events and actions, actual results could differ from those estimates. At 31 December 2019, in the opinion of the Board, there are no significant estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities of the fund within the next year.

Standards, interpretations and amendments to published standards effective in the current year

At the date of authorisation of these financial statements, certain new and amended standards and interpretations to existing standards have been published that became effective during the current financial year. The Board has assessed the relevance of all such new amendments and clarifications and has put into effect the following, which are immediately relevant to its operations.

IFRS 16 Leases

IFRS 16, which is effective 1 January 2019, sets out the principles for the recognition, measurement, presentation and disclosure of leases and will replace IAS 17 Leases, IFRIC 4 Determining whether an Arrangement contains a Lease, SIC-15 Operating Leases and SIC-27 Evaluating the Substance of Transactions Involving the Legal Form of a Lease.

The standard removes the current requirement for lessees to classify leases as finance leases or operating leases by introducing a single lessee accounting model that requires the recognition of lease assets (right-of-use assets) and lease liabilities on the statement of financial position for most leases. Lessees will also now separately recognise interest expense on the lease liability and depreciation expense on the right-of-use asset in the statement of profit or loss.

Coconut Industry Board
Coconut Windstorm Insurance Fund
Notes to the Financial Statements
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(expressed in Jamaican dollars unless otherwise indicated)

2. Significant Accounting Policies (Continued)

(a) Basis of preparation (continued)

Standards, interpretations and amendments to published standards effective in the current year (continued)

IFRS 16 Leases (continued)
Lessor accounting is substantially unchanged from accounting under IAS 17. Lessors will continue to classify all leases using the same classification principle as in IAS 17 and distinguish between two types of leases: operating and finance leases.

The Board completed its assessment of the potential impact of adopting IFRS 16 on its financial statements. The adoption of IFRS 16 did not have any impact on the financial statements as the Board does not have any leased assets.

Annual improvements to IFRS 2015 - 2018 Cycle – Amendments to IAS 12 and IAS 23 (effective for annual periods beginning on or after 1 January 2019). The amendments to IAS 12 clarify that all income tax consequences of dividends should be recognised in profit or loss, regardless of how the tax arises. The amendments to IAS 23 clarify that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalisation rate on general borrowings. There was no significant impact from the adoption of these amendments.

Standards, amendments and interpretations to existing standards that are not yet effective and have not been early adopted by the Board
The Board has concluded that the following standards which are published but not yet effective, are relevant to the Fund's operations, and will impact the Fund's accounting policies and financial disclosures as discussed below. These pronouncements are effective for annual periods beginning on or after the dates noted and will be applied by the Fund as of those dates, unless otherwise noted

Amendments to IAS 1, 'Presentation of financial statements' effective annual periods beginning on or after 1 January 2020. These amendments clarify that liabilities are classified as either current or non-current, depending on the rights that exist at the end of the reporting period. Classification is unaffected by the expectations of the entity or events after the reporting date (for example, the receipt of a waiver or a breach of covenant). The amendment also clarifies what IAS 1 means when it refers to the 'settlement' of a liability. The company is currently assessing the impact of future adoption of the new amendments on its financial statements.

Amendments to IFRS 9, IAS 39 and IFRS 7 – Interest rate benchmark reform effective annual periods beginning on or after 1 January 2020. These amendments provide certain reliefs in connection with interest rate benchmark reform. The reliefs relate to hedge accounting and have the effect that IBOR reform should not generally cause hedge accounting to terminate. However, any hedge ineffectiveness should continue to be recorded in the income statement. Given the pervasive nature of hedges involving IBOR based contracts, the reliefs will affect companies in all industries.

Coconut Industry Board
Coconut Windstorm Insurance Fund
Notes to the Financial Statements
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2. Significant Accounting Policies (Continued)

(a) Basis of preparation (continued)

Standards, amendments and interpretations to existing standards that are not yet effective and have not been early adopted by the Board (continued)

Amendments to IAS 1 'Presentation of financial statements' and IAS 8 'Accounting policies, changes in accounting estimates and errors' (effective for annual periods beginning on or after 1 January 2020). These amendments clarify the definition of materiality and the meaning of primary users of general purpose financial statements by defining them as existing and potential investors, lenders and other creditors. The Board is currently assessing the impact of this standard.

Revised Conceptual Framework for Financial Reporting (effective for annual periods beginning on or after 1 January 2020). The revised Conceptual Framework will be used in standard-setting decisions with immediate effect, however no changes will be made to any of the current accounting standards. Entities that apply the Conceptual Framework in determining accounting policies will need to consider whether their accounting policies are still appropriate under the revised Framework. The Board is currently assessing the impact of this revision.

There are no other IFRS or IFRIC interpretations that are not yet effective that would be expected to have a material impact on the Fund.

Coconut Industry Board
Coconut Windstorm Insurance Fund
Notes to the Financial Statements
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2. Significant Accounting Policies (Continued)

(b) Foreign currency translation

Functional and presentation currency

Items included in the financial statements are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The financial statements are presented in Jamaican dollars, which is the functional and presentation currency.

Transactions and balances

Foreign currency transactions are accounted for at the exchange rates prevailing at the dates of the transactions. At year end, monetary assets and liabilities denominated in foreign currency are translated using the closing exchange rate. Exchange differences arising from the settlement of transactions at rates different from those at the dates of the transactions and unrealised foreign exchange differences on unsettled foreign currency monetary assets and liabilities are recognised in the statement of comprehensive income.

(c) Financial instruments

A financial instrument is any contract that gives rise to both a financial asset in one entity and a financial liability or equity in another entity.

Financial assets

The Fund's financial assets comprise cash and short term investments, and balances due from Coconut Industry Board.

Classification

From 1 January 2019, the Board classifies and measures its financial assets as amortised cost .

The classification depends on the business model used for managing the financial assets and the contractual terms of the cash flows. The Board reclassifies debt investments only when its business model for managing those assets changes.

Coconut Industry Board
Coconut Windstorm Insurance Fund
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2. Significant Accounting Policies (Continued)

(c) Financial instruments (continued)

Measurement

Debt instruments
Measurement of debt instruments depends on the Fund's business model for managing the asset and the cash flow characteristics of the asset. The Fund classifies its debt instruments into two measurement categories:

- Amortised cost: Assets that are held for collection of contractual cash flows, where those cash flows represent solely payments of principal and interest, are measured at amortised cost. Interest income from these financial assets is included in the income statement using the effective interest rate method. Any gain or loss arising on derecognition is recognised directly in profit or loss. Impairment losses are presented as a separate line item in the income statement.

Impairment

The Fund assesses on a forward looking basis the expected credit losses (ECL) associated with its financial assets classified at amortised cost.

Application of the General Model
The Fund has applied the 'general model' as required under IFRS 9 for debt instruments other than trade receivables. Under this model, the Board is required to assess on a forward-looking basis the ECL associated with its debt instrument assets carried at amortised cost. The ECL will be recognised in profit or loss before a loss event has occurred. The measurement of ECL reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. The probability-weighted outcome considers multiple scenarios based on reasonable and supportable forecasts. Under current guidance, impairment amount represents the single best outcome; the time value of money; and reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

ECL is calculated by multiplying the Probability of default (PD), Loss Given Default (LGD) and Exposure at Default (EAD).

The impairment model uses a three-stage approach based on the extent of credit deterioration since origination:

Stage 1 – 12-month ECL applies to all financial assets that have not experienced a significant increase in credit risk since origination and are not credit impaired. The ECL will be computed using a 12-month PD that represents the probability of default occurring over the next 12 months.

Coconut Industry Board
Coconut Windstorm Insurance Fund
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2. Significant Accounting Policies (Continued)

(c) Financial instruments (continued)

Impairment (continued)

Stage 2 – When a financial asset experiences a significant increase in credit risk subsequent to origination but is not credit impaired, it is considered to be in Stage 2. This requires the computation of ECL based on lifetime PD that represents the probability of default occurring over the remaining estimated life of the financial asset. Provisions are higher in this stage because of an increase in risk and the impact of a longer time horizon being considered compared to 12 months in Stage 1.

Stage 3 – Financial assets that have an objective evidence of impairment will be included in this stage. Similar to Stage 2, the allowance for credit losses will continue to capture the lifetime ECL.

The Fund uses judgement when considering the following factors that affect the determination of impairment:

Assessment of Significant Increase in Credit Risk
The assessment of a significant increase in credit risk is done on a relative basis. To assess whether the credit risk on a financial asset has increased significantly since origination, the Fund compares the risk of default occurring over the expected life of the financial asset at the reporting date to the corresponding risk of default at origination, using key risk indicators that are used in the Fund's existing risk management processes. At each reporting date, the assessment of a change in credit risk will be individually assessed for those considered individually significant and at the segment level for retail exposures. This assessment is symmetrical in nature, allowing credit risk of financial assets to move back to Stage 1 if the increase in credit risk since origination has reduced and is no longer deemed to be significant.

Macroeconomic Factors, Forward Looking Information and Multiple Scenarios
The Fund applies an unbiased and probability weighted estimate of credit losses by evaluating a range of possible outcomes that incorporates forecasts of future economic conditions.

Macroeconomic factors and forward looking information are incorporated into the measurement of ECL as well as the determination of whether there has been a significant increase in credit risk since origination. Measurement of ECLs at each reporting period reflect reasonable and supportable information at the reporting date about past events, current conditions and forecasts of future economic conditions.

The Fund uses three scenarios that are probability weighted to determine ECL.

Expected Life
When measuring ECL, the Fund considers the maximum contractual period over which the Fund is exposed to credit risk. All contractual terms are considered when determining the expected life, including prepayment options and extension and rollover options.

Application of the Simplified Approach
For trade receivables, the Fund applies the simplified approach permitted by IFRS 9, which requires that the impairment provision is measured at initial recognition and throughout the life of the receivables using a lifetime ECL. As a practical expedient, a provision matrix is utilised in determining the lifetime ECLs for trade receivables.

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Coconut Windstorm Insurance Fund
Notes to the Financial Statements
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2. Significant Accounting Policies (Continued)

(c) Financial instruments (continued)

Impairment (continued)

The lifetime ECLs are determined by taking into consideration historical rates of default for each segment of aged receivables as well as the estimated impact of forward-looking information.

(d) Income recognition
Income comprises the fair value of the consideration received or receivable for the provision of services in the ordinary course of the Fund's activities. Income is shown net of General Consumption Tax.

Contractual Insurance Premiums
Contractual Insurance premiums are recognised on a pro-rated basis over the life of the policies written.

Interest income
Interest income is recognized in the income statement on a time-proportion basis using the effective interest method

Coconut Industry Board
Coconut Windstorm Insurance Fund
Notes to the Financial Statements
31 December 2019
(expressed in Jamaican dollars unless otherwise indicated)

3. Financial Risk Management

The Fund's activities expose it to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk, which is managed by the Board. The Board's overall financial risk management efforts seek to minimise potential adverse effects on the Fund's financial performance arising mainly from market risk.

The Board's risk management policies are designed to identify and analyse these risks, to set appropriate risk limits and controls, and to monitor the risks and adherence to limits by means of reliable and up-to-date information systems. The Board periodically reviews its risk management policies and systems to reflect changes in markets, products and emerging best practice.

The members of the Board are ultimately responsible for the establishment and oversight of the risk management framework. The Board has established a Finance Committee for managing and monitoring financial risks, as well as to manage the Board's and the Fund's assets and liabilities and the overall financial structure. The Finance Committee is also primarily responsible for the funding and liquidity risks of the Board.

There has been no change to the Fund's exposure to financial risk or the manner in which such risks are managed.

(a) Market risk

The Fund experiences exposure to market risk, which is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risks mainly arise from changes in foreign currency exchange rates and interest rates. Market risk is monitored by the Board which reviews the price movement of financial assets.

Currency risk

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

The Fund is exposed to foreign exchange risk arising from US dollar investments. The Fund manages its foreign exchange risk by closely monitoring currency positions and seeking to maximise foreign currency earnings. The Fund exposure to foreign currency exchange rate risk at year end was $29,775,000 (2018 - $26,001,000).

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3. Financial Risk Management (Continued)

(a) Market risk (continued)

Foreign currency sensitivity
The sensitivity analysis represents outstanding foreign currency denominated monetary items and adjusts their translation at the year-end for changes in foreign currency rates. The change in currency rate below represents management's assessment of the possible change in foreign exchange rates. The sensitivity of the net surplus is attributable to the Board's cash and cash equivalents and investments.

If at 31 December 2019, the Jamaican dollar strengthened/weakened by 4%/(6%) (2018 – 2 %/(4%) against the US dollar, with all other variables held constant, net surplus would have (decreased)/increased by approximately ($1,191,000)/$1,787,000 (2018 – ($420,000)/$ 840,000). The percentage represents management's assessment of the possible range of changes in the rate of exchange to the US dollar.

Interest rate risk
Interest rate risk is the risk that the value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Fixed interest rate instruments expose the Fund to fair value interest risk on its financial assets. Floating rate instruments expose the Board to cash flow interest risk. The Board's interest rate risk policy requires it to manage interest rate risk by maintaining a balanced investment portfolio for the Fund.

There is no significant exposure to interest rate risk on short-term investments, as these investments have a short term to maturity and are constantly re-invested at current market rates.

(b) Credit risk
The Fund takes on exposure to credit risk, which is the risk that its counterparties will cause a financial loss for the Fund by failing to discharge their contractual obligations. Credit exposures arise principally from the Fund's investment activities. The Board structures the levels of credit risk it undertakes for the Fund by placing limits on the amount of risk accepted in relation to a single counterparty.

The Board establishes an allowance for impairment that represents its estimate of incurred losses in respect of investments, loans and receivables. The Board addresses impairment assessment in two areas: individually assessed allowances and collectively assessed allowances.

The Board limits the exposure of the Fund to credit risk by investing mainly in liquid securities, with counterparties that have high credit quality and Government of Jamaica securities. Accordingly, management does not expect any counterparty to fail to meet its obligations.

(c) Liquidity risk
Liquidity risk is the risk that the Fund is unable to meet its payment obligations associated with its financial liabilities when they fall due. Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed credit facilities and the ability to close out market positions. Liquidity risk is not usually significant for the Fund, except in instances of natural disasters affecting insured trees.

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3. Financial Risk Management (Continued)

(c) Liquidity risk (continued)

Liquidity risk management process

The Board's liquidity management process for the Fund includes:

(i) Monitoring future cash flows and liquidity on a daily basis. This incorporates an assessment of expected cash flows and the availability of high-grade collateral which could be used to secure funding if required;

(ii) Maintaining a portfolio of highly marketable and diverse assets that can easily be liquidated as protection against any unforeseen interruption to cash flows and;

(iii) Optimising cash returns on investments.

Due to the nature of its activities, the Fund has no significant levels of financial liabilities and has significant financial assets to cover such financial liabilities that do arise in the course of normal operations.

(d) Capital management
The Board's objectives when managing capital for the Fund are to safeguard the Fund's ability to continue as a going concern in order to maintain sufficient surplus to cover potential windstorm damage to insured trees (Note 5).

(e) Fair value estimation
Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

The carrying values of cash at bank, short-term investments, due to/due from Coconut Industry Board and payables are assumed to approximate their fair values due to the short-term maturity of these instruments.

4. Sundry Debtors

	2019 $'000	2018 $'000
Withholding tax	8,762	8,962

5. Contingent Liability

During the year, the potential liability of the Fund for coconut windstorm damage was $77,770,000 (2018 - $76,043,000).

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6. Investments

	2019 $'000	2018 $'000
Current assets -		
Reverse repurchase agreements	149,642	164,741

(a) Interest receivable on investments amounted to $989,000 (2018 - $230,000). The effective weighted average interest rates on investments are 4.29% (2018 – 4.41%) and 2.49% (2019 – 2.29%) on Jamaican dollar and United States dollar investments respectively.

(b) Reverse repurchase agreements mature in less than 90 days and are regarded as cash equivalents for the purposes of the statement of cash flows.

7. Related Party Transactions

(a) Year-end balances arising from transactions with related parties

	2019 $'000	2018 $'000
Receivables -		
Coconut Industry Board	71,398	45,788

(b) Sales of services

	2019 $'000	2018 $'000
Premium income -		
Coconut Industry Board	889	862
Directors	2,535	2,535
	3,424	3,397

TABLE I

COCONUT PRODUCTION & CONSUMPTION

PRODUCTION

	2019		2018	
	1,000 Nuts	%	1,000 Nuts	%
Parish				
St. Thomas	29	3.6	28	2.4
Portland	61	7.5	10	0.9
St. Mary	444	54.7	785	68.4
St. Catherine	144	17.7	145	12.6
St. Elizabeth	133	16.4	177	15.4
Others	1	0.1	3	0.3
	812	100.0	1,148	100.0
Dry & Water Coconuts (est.)	128,544		125,161	
	129,356		126,309	

CONSUMPTION

Seed Coconuts - Local	133	0.1	168	0.2
Seed Coconuts - Export	6	-	47	-
Dry and Water Coconuts	129,217	99.9	126,094	99.8
	129,356	100.0	126,309	100.0

TABLE II

DISPOSAL OF COCONUTS DELIVERED BY GROWERS

	2019 Units	2018 Units
Exported as seed	55	545
Used locally for seed, jelly coconuts, etc.	28,870	34,863
	28,925	35,408

TABLE III

UNITS OF COCONUTS DELIVERED BY GROWERS IN 2019

	Properties		Units Delivered	
Units of Coconuts in Groups of	No.	%	No.	%
1 and up to 20	50	56.8	426	1.5
Over 20 " 50	13	14.8	411	1.4
" 50 " 100	12	13.7	897	3.1
" 100 " 200	5	5.7	722	2.5
" 200 " 500	5	5.7	1,619	5.6
" 500 " 1,000	1	1.1	828	2.9
" 1,000 " 5,000	1	1.1	1,081	3.7
" 5,000 "	1	1.1	22,941	79.3
	88	100.0	28,925	100.0

Note

One unit = 110 nuts

TABLE IV

DIRECTORS' COMPENSATION 2019

Name	Position of Director	Fees	Motor Vehicle Upkeep/ Travelling or Value of Assignment of Motor Vehicle	All Other Compensations including Non-cash Benefits as Applicable	Total
		$	$	$	$
Christopher Gentles	Board Chairman	262,500	76,842	110,000	449,342
Stephen Black	Board Member	120,600	72,964		193,564
Homer Davis	Board Member	84,600	146,589		231,189
Charles Douglas	Board Member	152,250	72,828		225,078
Sandra Ennis	Board Member	144,000	121,555		265,555
Hugh Gentles	Board Member	108,000	115,218		223,218
Nicholas Jones	Board Member	113,400	62,028		175,428
Frank Phipps	Board Member	122,400	64,656		187,056
Alaric Pottinger	Board Member	162,000	150,651		312,651
	Sub-total	**1,269,750**	883,331	110,000	2,263,081
Raymond Mattis (Govt. Rep.)			49,842		49,842
	TOTAL	**1,269,750**	**993,173**	**110,000**	**2,312,923**

Note: (a) $110,000 – Represents out-of-pocket expenses for the year
(b) $993,173 – Travelling Allowance

TABLE V

SENIOR EXECUTIVE COMPENSATION - 2019

Position of Senior Executive	Year	Salary	Gratuity or Performance Incentive	Travelling Allowance or Value of Assigned Motor Vehicle	Other Allowances	Non-Cash Benefits	Total
		$	$	$	$	$	$
General Manager	2019	7,167,648	796,405		860,117	120,000	8,944,170
Director of Research	2019	4,680,564	520,063		561,668	120,000	5,882,295
*Corporate Secretary	2019	1,004,745	0		105,905	30,000	1,140,650
^Corporate Secretary	2019	1,625,000	0		0	50,000	1,675,000
Total		**14,477,957**	**1,316,468**		**1,527,690**	**320,000**	**17,642,115**

* Jan - Mar 2019

^ June - Dec 2019