

INVESTMENT PROFILE FOR GINGER

APRIL
2019



AGRO-INVEST

AGRO-INVESTMENT CORPORATION

Promoting and Facilitating Agri-Business Investments



TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
LIST OF TABLES.....	3
LIST OF FIGURES.....	4
LIST OF ACRONYMS.....	5
PRODUCT PROFILE.....	6
CROP PRODUCTION.....	8
MARKET CHALLENGES AND OPPORTUNITIES.....	10
MARKET ANALYSIS.....	11
FINANCIAL OPPORTUNITIES FOR INVESTMENT.....	13

LIST OF TABLES

Table 1: Product Profile for Ginger.....	6
Table 2: Cost of Production for a 0.4 hectare Ginger Farm.....	8
Table 3: Comparative Estimates of Domestic Ginger Production and Area Reaped.....	9
Table 3: Tariffs applied by the U.S to Jamaica.....	11
Table 4: Jamaica's Export of Ginger in 2017.....	12
Table 5: Jamaica's Total Ginger Imports in 2017.....	12
Table 6: Financial Opportunities for Investment in Agriculture in Jamaica.....	13

LIST OF FIGURES

Figure 1: Markets with the greatest potential for Jamaica's exports of Ginger.....	10
Figure 2: Top 10 Producers of Ginger Globally.....	11

LIST OF ACRONYMS

COP - Cost of Production

FAO - Food and Agriculture Organization of the United Nations

FAOSTAT - Food and Agriculture Organization Corporate Statistical Database

GOJ - Government of Jamaica

ITC - International Trade Center

JBF - Jamaica Business Fund

JMD - Jamaican Dollars

MICAF - Ministry of Industry, Commerce, Agriculture and Fisheries

RADA - Rural Agricultural Development Authority

SRC - Scientific Research Council

STATIN - Statistical Institute of Jamaica



U.K. - United Kingdom

USA/U.S. - United States of America

USD - United States Dollars

Product Profile

Table 1: Product Profile for Ginger

<p>Ginger</p>  <p>Jamaica Yellow Variety</p> 	<p>Botanical Name and Origin: Ginger (<i>Zingiber Officinale</i>) has its origins in Asia and was introduced by the Spanish to Jamaica in the early 1700s.</p> <p>Species: It has 47 genera and in excess of 1,000 species. Two types of the Ginger plant are grown in Jamaica:</p> <ol style="list-style-type: none"> 1. Yellow Ginger: The yellow or white Ginger has a yellow colour when cut. 2. Blue Ginger: This type of ginger displays a bluish hue when cut. <p>Nutritional Value:</p> <table border="1"> <thead> <tr> <th>Nutrient</th> <th>Unit</th> <th>1Value per 100 g</th> </tr> </thead> <tbody> <tr><td>Water</td><td>g</td><td>78.89</td></tr> <tr><td>Energy</td><td>kcal</td><td>80</td></tr> <tr><td>Energy</td><td>kJ</td><td>333</td></tr> <tr><td>Protein</td><td>g</td><td>1.82</td></tr> <tr><td>Total lipid (fat)</td><td>g</td><td>0.75</td></tr> <tr><td>Ash</td><td>g</td><td>0.77</td></tr> <tr><td>Carbohydrate, by difference</td><td>g</td><td>17.77</td></tr> <tr><td>Fiber, total dietary</td><td>g</td><td>2</td></tr> <tr><td>Sugars, total</td><td>g</td><td>1.7</td></tr> <tr><td>Calcium, Ca</td><td>mg</td><td>16</td></tr> <tr><td>Iron, Fe</td><td>mg</td><td>0.6</td></tr> <tr><td>Magnesium, Mg</td><td>mg</td><td>43</td></tr> <tr><td>Phosphorus, P</td><td>mg</td><td>34</td></tr> <tr><td>Potassium, K</td><td>mg</td><td>415</td></tr> <tr><td>Sodium, Na</td><td>mg</td><td>13</td></tr> <tr><td>Zinc, Zn</td><td>mg</td><td>0.34</td></tr> <tr><td>Copper, Cu</td><td>mg</td><td>0.226</td></tr> <tr><td>Manganese, Mn</td><td>mg</td><td>0.229</td></tr> <tr><td>Selenium, Se</td><td>µg</td><td>0.7</td></tr> <tr><td>Vitamin C, total ascorbic acid</td><td>mg</td><td>5</td></tr> <tr><td>Thiamin</td><td>mg</td><td>0.025</td></tr> <tr><td>Riboflavin</td><td>mg</td><td>0.034</td></tr> <tr><td>Niacin</td><td>mg</td><td>0.75</td></tr> </tbody> </table>	Nutrient	Unit	1Value per 100 g	Water	g	78.89	Energy	kcal	80	Energy	kJ	333	Protein	g	1.82	Total lipid (fat)	g	0.75	Ash	g	0.77	Carbohydrate, by difference	g	17.77	Fiber, total dietary	g	2	Sugars, total	g	1.7	Calcium, Ca	mg	16	Iron, Fe	mg	0.6	Magnesium, Mg	mg	43	Phosphorus, P	mg	34	Potassium, K	mg	415	Sodium, Na	mg	13	Zinc, Zn	mg	0.34	Copper, Cu	mg	0.226	Manganese, Mn	mg	0.229	Selenium, Se	µg	0.7	Vitamin C, total ascorbic acid	mg	5	Thiamin	mg	0.025	Riboflavin	mg	0.034	Niacin	mg	0.75
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Jamaica Blue Variety



Pantothenic acid	mg	0.203
Vitamin B-6	mg	0.16
Folate, total	µg	11
Folic acid	µg	0
Folate, food	µg	11
Folate, DFE	µg	11
Choline, total	mg	28.8
Vitamin B-12	µg	0
Vitamin B-12, added	µg	0
Vitamin A, RAE	µg	0
Retinol	µg	0
Carotene, beta	µg	0
Carotene, alpha	µg	0
Cryptoxanthin, beta	µg	0
Vitamin A, IU	IU	0
Lycopene	µg	0
Lutein + zeaxanthin	µg	0
Vitamin E (alpha-tocopherol)	mg	0.26
Vitamin E, added	mg	0
Vitamin D (D2 + D3)	µg	0
Vitamin D	IU	0
Vitamin K (phylloquinone)	µg	0.1

Source: USDA 2018

Medicinal Uses: To cure motion sickness, vertigo, morning sickness, nausea, dizziness, vomiting, to relieve 'gas' and ailments of the stomach, colon or digestive tract, headaches, headaches. In addition, it is also recommended in the management of rheumatic disorders and muscular pain.

By-Products: It can be eaten raw or cooked. It is used to make beers, tea, biscuit and a variety of baked goods, sauces, juices and sodas, confectionaries, pastries, condiments, perfumes, and medicines.

Crop Production

Jamaican ginger is renowned for its high quality and flavour and oil content. As a nutraceutical, it is most potent between 6-7 months after planting (SRC 2018).

Cost of Production: A ginger farm is a highly viable proposition. The projected marketable yield for a 0.4 hectare ginger farm is 6,075kg. The cost of production amounts to \$101 per kg of ginger. The farm-gate price for ginger stands at \$435.29 (MICAF 2018). A summary is given in table 2 below.

Table 2: Cost of Production for a 0.4 Hectare Ginger Farm

Labour Operations	Unit	No. of Units	Cost/Unit	Total Cost
Land Clearing	MD	6	2000	12,000
Ploughing	Tractor		25000	25,000
Maintain Trench	MD	3	2000	6,000
Planting	MD	6	2000	12,000
Weeding	MD	10	2000	20,000
Fertilising	MD	2	2000	4,000
Harvesting	MD	20	2000	40,000
Lunch	Each	47	500	23,500
SUBTOTAL				142,500

Planting Material	lbs	2000	150	300,000
Fertiliser:				
NPK 14-28-14	50 kg bag	4	6000	24,000
Insecticide:				
Diazinon	500 ml	1	1200	1,200
Herbicide:				
Glyphosate	litre	2	1300	2,600
SUBTOTAL				327,800

Contingencies (10 percent of labour and material)	47,030
**Tools discounted for 5 years	9,400
Land Charges per year	15,000
Supervsion (15 percent of labour and material)	70,545
SUBTOTAL	141,975
TOTAL OPERATING EXPENDITURE PER CROP CYCLE	612,275

Source: MICAF (2018)

Project Viability: Investment in the production and exportation of the Jamaican Ginger is lucrative as supported by financial projections.

Gross Revenue: Under favourable conditions, investors can expect a gross revenue of 2.6 million JMD.

Net Income: Investors can expect a net income of 2 million JMD over a period of 1 year.

Return on Investment: Ginger farming guarantees a ROI of 231.90%.

Suitable Locations: Suitable locations for commercial ginger production are in the parishes of Clarendon, Manchester, Trelawny, St. Ann, and St. Thomas (JBF 2018).

Drainage: Moist, well-draining soil is optimal for ginger plants. The crop cannot survive waterlogging.

Reap: Plants reach maturity around October/November and is usually dried down by December/January. The reaping period is December to May (RADA 1999).

Comparative Estimates of Domestic Crop Production and Area Reaped by Crop Group

Table 3: Comparative Estimates of Domestic Ginger Production and Area Reaped

Production (Tonne)			Area Reaped (Hectare)			
2018	2017	% Change	2018	2017	% Change	
Ginger	644.9	599.7	7.5	208.3	194.9	408.8

Source: MICAFA (2018)

Harvesting Methods: Gingers are harvested by hoeing the field. Caution must be exercised when harvesting to prevent damage to the rhizomes. Ginger for the fresh export market should be harvested earlier, about 7 months, to reduce the fibre content of the rhizome.

Post-harvest handling: After digging, the soil from the rhizomes and roots must be shaken removed. The rhizomes must then be washed thoroughly and dried. Ginger is usually packaged in bags and less frequently in boxes. In damp weather, the ginger must be protected from moisture, as this may in molding and spoilage of the ginger.

Disease Control: According to RADA (2018), the Ginger Rhizome Rot (GRR) affects the entire plant resulting in drooping leaves and plant tops being pulled away from the root. Consequently, the plant dries and falls over before reaping time.

Controlling Ginger Rhizome Rot (RADA 1999) involves:

1. Planting ginger in areas that are not affected by the Ginger Rhizome Rot;

2. Using planting material from areas that does not show any signs of the Ginger Rhizome Rot;
3. Carefully inspecting by breaking the rhizomes and selecting only healthy-looking hands;
4. Administering fungicide to planting material as followed by RADA.

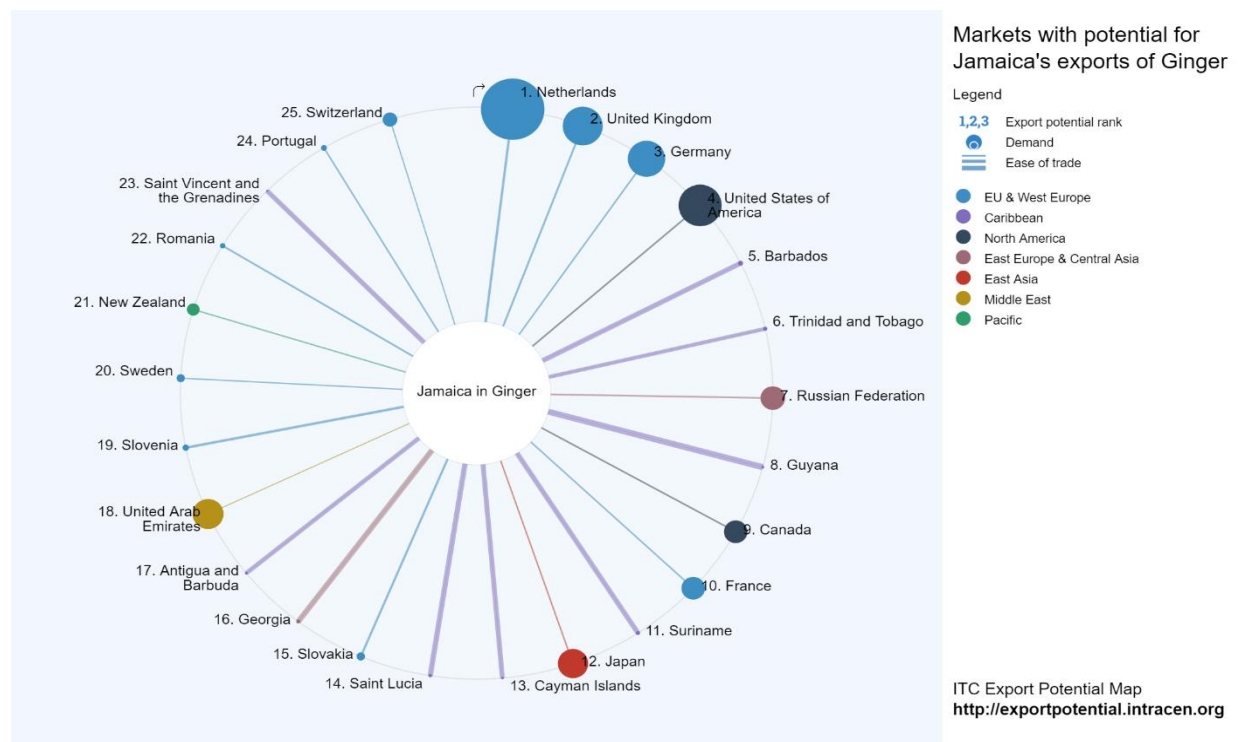
Market Opportunities and Challenges

Export Potential: Ginger falls under the International Harmonised System code 091010. The markets with greatest potential for Jamaica’s exports of Ginger are Netherlands, United Kingdom and Germany. Netherlands shows the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth \$314.1 k. (See Figures 1 and 2).

Based on data from the ITC (2019), the Netherlands market has the highest demand potential for Ginger. The total untapped export potential of Ginger stands at \$665.8 mn.

For investors to successfully take advantage of this market it requires several key components: pricing to remain competitive and profitable, good sales and marketing strategy, using attractive packaging similar other exporting countries and having a nearly all year-round presence in the market.

Figure 1: Markets with the Greatest Potential for Jamaica’s Exports of Ginger



Source: ITC (2019)

The markets with greatest potential for global export of 091010 Ginger are the United States of America, Japan and Pakistan. The suppliers with greatest potential to export Ginger globally are China, India and Thailand.

Standards: Ginger must be produced and handled under the necessary sanitary and hygienic processes. These sanitary and phytosanitary measures therefore requires pest and disease free Ginger. Investors must ensure that gingers produced are of the highest quality.

Tariffs applied by United States of America:

Table 4: Tariffs applied by the U.S to Jamaica

Partner	Product description	Tariff regime	Applied tariff (as reported)	Applied tariff (converted)	Total ad valorem equivalent tariff
Jamaica	Ginger, neither crushed nor ground	MFN duties (Applied)	0	0	0

Source: ITC (MAcMap) 2019

Market Analysis

World Production

According to FAO (2019), the world's largest producers of Ginger include India, China, and Nigeria.

Figure 2: Top 10 Producers of Ginger



Source: FAOSTAT (Apr 05, 2019)

Source: FAOSTAT (2019)

Market Prices

In 2018, data from STATIN revealed that the average market price (export) for ginger was sold at 4.48 USD/kg with the lowest price being 1.81 USD/kg and highest at 8.00 USD/kg.

Jamaica's Export Characteristics

The total exports of Ginger for 2017 was 15,258kg and was valued at US\$ 42,609.00 with the U.S. being the largest importer of ginger from Jamaica. (See Table 5 and Figure 6). The US imported US\$ 19,879 worth of ginger.

Table 5: Jamaica's Export of Ginger in 2017 (Preliminary)

Description	kg	J\$	US\$	Country	Year
Ginger, neither crushed nor ground	288	286,004	2,260	Bermuda	2017
Ginger, neither crushed nor ground	1,559	997,298	7,845	Canada	2017
Ginger, neither crushed nor ground	1,483	955,367	7,480	Cayman Islands	2017
Ginger, neither crushed nor ground	388	395,358	3,166	Guyana	2017
Ginger, neither crushed nor ground	5	487	4	Saint Lucia	2017
Ginger, neither crushed nor ground	28	12,200	97	St. Maarten (Dutch part)	2017
Ginger, neither crushed nor ground	50	33,763	261	Turks and Caicos Islands	2017
Ginger, neither crushed nor ground	503	207,506	1,618	United Kingdom	2017
Ginger, neither crushed nor ground	10,955	2,530,107	19,879	United States of America	2017

Source: STATIN (2017)

Jamaica's Import Characteristics

Table 6 below shows the total ginger imports for the period of 2017. The total imports for this period was 57,922kg valued at \$US 322,277 with its highest imports of ginger coming from Thailand weighing a total of 35,859kg.

Table 6: Jamaica's Total Ginger Imports in 2017

Description	kg	J\$	US\$	Country	Year
Ginger, neither crushed nor ground	93	29,383	231	Canada	2017
Ginger, neither	14,000	5,552,308	42,907	China	2017

crushed nor ground					
Ginger, neither crushed nor ground	91	66,150	518	Hong Kong (Special Administrative Region of China)	2017
Ginger, neither crushed nor ground	834	386,084	3,019	Nigeria	2017
Ginger, neither crushed nor ground	35,859	33,224,621	259,680	Thailand	2017
Ginger, neither crushed nor ground	7,046	2,040,010	15,922	United States of America	2017

Source: STATIN (2017)

Financial Opportunities for Investment

Table 7: Financial Opportunities for Investment in Agriculture in Jamaica

Provider	Finance Type	Amount Lower Limit	Amount Upper Limit	Currency
Development Bank Of Ja Ltd	Grant	Not Specified	\$300,000.00	USD
Development Bank Of Ja Ltd	Loan Commercial	Not Specified	Not Specified	USD
Development Bank Of Ja Ltd	Loan Commercial	Not Specified	Not Specified	USD
First Global Bank Ltd	Loan Commercial	Not Specified	Not Specified	USD
U W I Credit Union Co-operative Society	Loan Commercial	Not Specified	Not Specified	USD
Inter-American Dev Bank	Equity	Not Specified	\$5,000,000.00	USD
Inter-American Dev Bank	Loan Commercial	Not Specified	\$5,000,000.00	USD
EXIM Bank	Loan Commercial	\$8,455.22	\$500,000.00	USD
St Catherine Co-Op Credit Union Ltd	Loan Commercial	Not Specified	\$200,000.00	USD
Access Financial Services Ltd	Loan Commercial	Not Specified	\$150,000.00	USD
Access Financial Services Ltd	Loan Commercial	\$30,000.00	Not Specified	USD
Access Financial Services Ltd	Loan Commercial	\$10,000.00	\$100,000.00	USD
Development Bank Of Ja Ltd	Loan Government	Not Specified	\$15,000,000.00	JMD
Development Bank Of Ja Ltd	Loan Government	Not Specified	\$15,000,000.00	JMD
Development Bank Of Ja Ltd	Loan Government	Not Specified	\$5,000,000.00	JMD
Development Bank Of Ja Ltd	Loan Government	Not Specified	\$500,000.00	JMD
Development Bank Of Ja Ltd	Loan Government	Not Specified	\$5,000,000.00	JMD

Development Bank Of Ja Ltd	Loan Government	Not Specified	\$2,500,000.00	JMD
Development Bank Of Ja Ltd	Loan Government	Not Specified	\$5,000,000.00	JMD
Development Bank Of Ja Ltd	Grant	Not Specified	\$300,000.00	JMD
Development Bank Of Ja Ltd	Loan Government	\$50,000,000.00	\$500,000,000.00	JMD
EXIM Bank	Loan Government	Not Specified	\$2,000,000.00	JMD
EXIM Bank	Loan Government	Not Specified	\$62,000.00	JMD
First Global Bank Ltd	Loan Commercial	Not Specified	\$30,000,000.00	JMD
National Commercial Bank Ja Ltd	Loan Commercial	Not Specified	\$30,000,000.00	JMD
National Commercial Bank Ja Ltd	Loan Commercial	Not Specified	\$7,500,000.00	JMD
National Commercial Bank Ja Ltd	Loan Commercial	Not Specified	\$5,000,000.00	JMD
JN Small Business Loans Ltd	Loan Commercial	Not Specified	\$5,000,000.00	JMD
JN Small Business Loans Ltd	Loan Commercial	\$30,000.00	\$1,000,000.00	JMD
JN Small Business Loans Ltd	Loan Commercial	Not Specified	\$150,000.00	JMD
JN Small Business Loans Ltd	Loan Commercial	\$30,000.00	\$1,000,000.00	JMD
JN Small Business Loans Ltd	Loan Commercial	\$1,000,000.00	\$5,000,000.00	JMD
Scotia Ja Microfinance Co Ltd	Loan Commercial	\$60,000.00	Not Specified	JMD
Access Financial Services Ltd	Loan Commercial	Not Specified	\$100,000.00	JMD
Access Financial Services Ltd	Loan Commercial	\$100,000.00	\$500,000.00	JMD
Access Financial Services Ltd	Loan Commercial	\$500,000.00	\$1,000,000.00	JMD
Access Financial Services Ltd	Loan Commercial	Not Specified	\$30,000.00	JMD
Bank Of Nova Scotia Ja Ltd The	Loan Commercial	Not Specified	\$500,000.00	JMD
Bank Of Nova Scotia Ja Ltd The	Loan Commercial	\$500,000.00	\$5,000,000.00	JMD

Source: Caribbean Export Intelligence Portal (2019)

Contact our Investment Team today for more information on available Investment Opportunities!

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