

YAM INVESTMENT PROFILE

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CROP PROFILE

Yam is the general name given to plant species of the genus *Dioscorea*. Whilst there are several varieties of yams in Jamaica (at least 18), there are two distinguishable types of Yellow Yam (*Dioscorea Cayenensis*), namely the Round Leaf and the Black Whisp. These two are normally differentiated by the leaf formation and other noticeable plant features. Within the group of White Yam (*D. roundata*) varieties, there are mainly two types with commercial interest, the Negro Yam and Sweet Yam.

Yam is considered an annual plant (can be planted continuously) that reaches maturity within 9 – 12 months. The cultivation of yam requires fertile soils that are deep and well drained. It also requires soils that are not too compacted, as that may result in tuber malformation. Planting is usually done before the rainy season, between the months April to June. Harvesting is usually at its peak between the months November to January.

HEALTH BENEFITS

Yam is a good source of energy; 100 g provides 118 calories. The tuber is chiefly composed of complex carbohydrates and soluble dietary fibers.

As a dietary fiber it helps to reduce constipation, decreases bad cholesterol levels by binding to it in the intestines and lowers colon cancer risk. Additionally, being a good source of complex carbohydrates, it regulates steady rise in blood sugar levels, and for the same reason it is recommended as a low glycemic index healthy food.

The tuber is an excellent source of B-complex group of vitamins. It provides adequate daily requirements of pyridoxine (vitamin B6), thiamin (vitamin B1), riboflavin, folic acid, pantothenic acid and niacin. These vitamins mediate various metabolic functions in the body.

The fresh root contains fair amounts of the anti-oxidant vitamin-C. It provides about 29% of the recommended levels per 100 g. Vitamin C has some important roles in anti-aging, immune function, wound healing, and bone growth.

Yam also contains small amounts of vitamin-A, and beta-carotene levels. Carotenes convert to vitamin A in the body. Both these compounds are strong antioxidants. Vitamin A has many functions like maintaining healthy mucus membranes and skin, vision, growth and increases resistance from lung and oral cavity cancers.

TABLE 1: YELLOW YAM ESTIMATED PRODUCTION SCHEDULE: 2010 – 2014

YELLOW YAM PRODUCTION					
Year	Production (Kg)	Crop Area Reaped (Ha)	Output (Kg/Ha)	% Change in Production	% Change Area Reaped
2010	89,944,000	4838	18,591	-	-
2011	88,601,000	5659	15,657	-1.49	16.97
2012	100,325,000	5800	17,297	13.23	2.49
2013	95,334,000	5798	16,443	-4.97	-0.03
2014	95,653,900	5694	16,799	0.34	-1.79

TABLE 2: NEGRO YAM ESTIMATED PRODUCTION SCHEDULE: 2010 - 2014

NEGRO YAM PRODUCTION					
Year	Production (Kg)	Crop Area Reaped (Ha)	Output (Kg/Ha)	% Change in Production	% Change Area Reaped
2010	9,444,000	875	10,793	-	-
2011	9,892,000	929	10,648	4.74	6.17
2013	15,301,000	878	17,427	52.75	-3.94
2014	14,009,700	829	16,900	-8.44	-5.58

TABLE 3 SWEET YAM ESTIMATED PRODUCTION SCHEDULE: 2010 - 2014

SWEET YAM PRODUCTION					
Year	Production (Kg)	Crop Area Reaped (Ha)	Output (Kg/Ha)	% Change in Production	% Change Area Reaped
2010	2,902,000	292	9,938	-	-
2011	3,291,000	215	15,307	13.40	-26.37
2012	2,609,000	173	15,081	-20.72	-19.53
2013	1,805,400	124	14,560	-30.80	-28.32
2014	1,767,900	121	14,611	-2.08	-2.42

TABLE 4: ESTIMATED INCOME PROJECTION FOR YELLOW YAM PRODUCTION OVER 5 YEARS (0.4 HECTARES/1 ACRE)

Item	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5
Labour Operations	218,000	207,500	207,500	207,500	207,500
Material Inputs	74,500	74,500	74,500	74,500	74,500
Equipment	25,000	0	0	0	0
Other Costs	97,575	96,325	96,325	96,325	96,325
TOTAL	415,075	378,325	378,325	378,325	378,325
Estimated Output (Kg/Ac)	6,818	6,818	6,818	6,818	6,818
Est. Farmgate Price (J\$/kg)	120	120	120	120	120
Estimated Gross Revenue	818160	818160	818160	818160	818160
Total Net Income	403,085	439,835	439,835	439,835	439,835

TABLE 5: THE ESTIMATED COST OF PRODUCTION:

Year Product	Cost of Production (\$/Kg)			
	2010	2011	2012	2013
Yellow Yam	57.45	56.74	43.85	58.00
Negro Yam	52	62	37.41	54.00

DOMESTIC MARKET PRICES:

TABLE 6: FARMGATE PRICE CHANNEL (\$/KG):

		Annual Average YAM PRICES (Farmgate)					
		2010	2011	2012	2013	2014	
Year	(S/Kg)						
Product							
Yellow Yam		94.93	119.35	100.34	136.70	138.75	
Sweet Yam		134.87	135.96	140.67	145.09	152.38	
Negro Yam		109.84	112.95	115.14	127.57	132.28	

TABLE 7: PERCENTAGE DIFFERENCE BETWEEN FARMGATE PRICE (\$/KG) & COST OF PRODUCTION (\$/KG)

Percentage Difference (%)				
Year	2010	2011	2012	2013
Product				
Yellow Yam	65.24	110.35	128.83	135.69
Negro Yam	111.23	82.18	256.25	136.24

EXPORT DATA

TABLE 8: YAM EXPORTS, QUANTITY (KG) & VALUE (US \$): 2010 – 2014

YAM EXPORTS					
Year	Quantity (Kg)	Estimated Value (US \$)	Estimated Local Production (Kg)	% Yams Exported	\$/Kg (US)
2010	9,774,217	19,083,279	136,785,000	7.15	1.95
2011	9,329,501	19,734,080	134,620,000	6.93	2.12
2012	9,857,049	19,601,896	145,059,000	6.80	1.99
2013	9,796,758	22,273,621	138,833,900	7.06	2.27
2014	10,606,605	22,127,503	135,302,800	7.84	2.09
Average	9,872,826	20,564,076	138,120,140	7.15	2.08

TABLE 9: YAM EXPORTS BY COUNTRY, 2010 - 2014

	Yam Exports (Kg)					
Destination	2010	2011	2012	2013	2014	Average
USA	7,495,198	7,214,082	7,383,524	7,367,578	8,205,068	7,533,090
Canada	1,508,946	1,353,808	1,641,395	1,548,971	1,559,720	1,522,568
United Kingdom	627,351	615,898	704,432	734,428	676,695	671,761
Other Countries	142,722	145,713	127,698	145,781	165,121	145,407
TOTAL	9,774,217	9,329,501	9,857,049	9,796,758	10,606,605	9,872,826
Percentage Change (%)	-	-4.55	5.65	-0.61	8.27	

**TABLE 10: UNITED STATES FRESH YAM IMPORTS: 2012 – 2014
COUNTRY 2012**

Partner	QUANTITY (MT)				Relative Market Share (%)
	2012	2013	2014	Cumulative Imports	
Jamaica	8,137.10	7,478.00	8,929.50	24,544.60	22.83
Costa Rica	15,410.30	15,735.00	13,829.10	44,974.40	41.82
Ghana	5,060.50	5,481.50	6,215.10	16,757.10	15.58
Japan	1,349.50	1,867.40	1,948.30	5,165.20	4.80
Colombia	2,219.20	1,910.50	2,654.60	6,784.30	6.31
Brazil	1,437.20	1,451.80	1,519.90	4,408.90	4.10
China	582.4	1,832.40	837.7	3,252.50	3.02
Dominican Republic	79.6	132.5	218.3	430.40	0.40
Philippines	109.2	125.5	89.5	324.20	0.30
Panama	62.8	124.8	213.9	401.50	0.37
Others	207	154.3	128.8	490.10	0.46
Total	34,654.80	36,293.70	36,584.70	107,533.20	100.00

TABLE 11: THE ESTIMATED VALUE OF YAMS EXPORTED TO THE US, 2012 - 2014

Partner	US Export Value (US '000 \$)			
	2012	2013	2014	Cumulative Export Value
Jamaica	16,165	17,429	18,244	51,838
Costa Rica	14,476	16,686	14,198	45,360
Ghana	7,048	8,351	8,469	23,868
Japan	4,801	5,645	6,890	17,336
Colombia	1,660	1,998	2,711	6,369
Brazil	1,994	2,087	2,018	6,099
China	709	1,581	860	3,150
Dominican Republic	101	126	211	438
Philippines	192	233	181	606
Panama	31	108	167	306
Others	217	264	116	597
Total	47,394	54,508	54,065	155,967