

Review of Sesame Seed Production and Export in Nigeria (2003 to 2012).

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ABSTRACT

The study was carried out using statistical data obtained from the Food and Agricultural Organization of the United Nations to analyse sesame seed production, land area and yield in Nigeria from 2003 to 2012; and quantity exported, prices and value of exported sesame seed for Nigeria from 2003 to 2010. The result showed that Nigeria's sesame production and land area both increase about 98% but yield remained about the same during the study period. The quantity exported, prices and value of its trade rose about 396, 84, and 732%, respectively. The study revealed that, the increased sesame production in Nigeria was not witnessed by yield increase but by corresponding increase in the land area used for cultivation of sesame crop. Similarly, increased value from export of sesame seed was as a result of combined increase in prices and quantity exported. The unimproved yield recorded during the study period may be as a result of poor adoption of improved technologies for sesame production in Nigeria.

(Keywords: sesame, production, land area, yield, export, prices, and value)

INTRODUCTION

Nigeria's sesame seed production saw a tremendous increase in the last ten years, from a mere 80,000 metric tonnes in 2003 to about 158,000 metric tonnes in 2012. This was driven by the external demand of the seed that makes it the third largest exported commodity after oil and cocoa, both in terms of quantity and foreign exchange earned from its export (FAO, 2012). Over 70% of the Nigeria's sesame seed produced is being exported to mainly Asian countries. Japan

is currently the world's largest importer of sesame seed follows by Taiwan and Korea (FAO, 2010; Anon., 2009).

Sesame is one of the most ancient crops and oilseeds known and used by mankind mainly due to its ease of extraction, great stability, and resistance to drought. It is known by many names such as beniseed, gingelly, sinsin, sesame, and till. Sesame crop is cultivated in almost all tropical and subtropical Asian and African countries for its highly nutritious and edible seeds (Iwo *et al.*, 2002). The seeds served as ingredients in soup and a source of oil (Biswas *et al.*, 2001) and the cake after oil extraction is used in livestock feed. It is also used in local preparation of weaning food (Lalude and Fashakin, 2006).

Sesame is grown mainly for its seeds that contain approximately 50% oil and 25% protein (Burden, 2005). The presence of some antioxidants (sesamum, sesamol, and sesamol) makes the oil one of the most stable vegetable oils in the world. Seeds are used as raw food as well as in confectioneries, sweets, bakery products and also oil is used for industry in preparation of soap, perfume, and carbon papers as well as in vegetable oil (Khan *et al.*, 2001). The seed contains all essential amino acids and fatty acids and it is a good source of vitamins (pantothenic acid and vitamin E) and minerals such as calcium (1450 mg/100g) and phosphorous (570 mg/100g) (Balasubramaniyan and Palaniappan, 2001).

METHODOLOGY

Secondary data assessed from Food and Agricultural Organization (FAO) statistical division (FAOSTAT, 2012) were used for the study. The data series covered a period of 10 years (2003 to

2012). The analysis considered the total production, land area and yield per hectare for a period 2003 to 2012, while the quantity exported in metric tonnes, prices per metric tonnes and value of exported sesame seed were considered for a period 2003 to 2010. The limitation of the FAO data is that it is largely calculated rather than measured. However, it is still more complete, accurate and dependable compared to the data from Nigeria's National Bureau for Statistics.

RESULTS

The results of total production, land area used, and yield of sesame crop in Nigeria is presented in Table 1. The total production and land area for sesame production in Nigeria recorded a 2.5% and 1.2% declined respectively between 2003 and 2004. Thereafter the quantity produced remained the same for 2005 and 2006 years, but the land area increases only 0.5% during the same period.

A steady increase in total production quantity and land area was recorded from 2007 to 2012 except

in 2009, when the quantity produced and land area used declined by 2.4% and 5.3% respectively from the quantity recorded in 2008.

Overall the result indicates that, both production and land area used for sesame production increased about 98% from 2003 to 2012. However, yield of sesame crop is only slightly fluctuating positively and negatively but essentially remained the same for the study period.

The result of total export, price per metric tonne, and value of exported sesame seed in Nigeria is presented in Table 2. A steady increase in total export quantity and value was recorded from 2003 to 2010 except in 2007, when the quantity exported and value declined by 18.6% and 10.5% respectively from the quantity recorded in 2006. Overall the result indicates export and value of sesame seed from Nigeria increase about 396% and 732%, respectively, from 2003 to 2010. The price of sesame seed showed a steady increase during the study period, increasing about 84% from 2003 to 2010.

Table 1: Sesame Production, Land Area, and Yield in Nigeria (2003-2012).

Year	Production (metric tonnes)	% change relative to 2003	Area in hectares	% change relative to 2003	yield per hectare (kg/ha)	% change relative to 2003
2012	158,000	97.5	330,000	97.6	479	0
2011	155,000	93.8	325,000	94.6	477	-0.4
2010	149,410	86.8	324,570	94.4	460	-3.9
2009	119,710	49.6	308,230	84.6	388	-19.0
2008	121,610	52	317,080	89.9	384	-19.8
2007	117,700	47	299,280	79.2	393	-17.9
2006	100,000	25	197,000	17.9	508	6.1
2005	100,000	25	196,000	17.4	510	6.5
2004	78,000	-2.5	165,000	-1.2	473	-1.25
2003	80,000	-	167,000	-	479	-

Assessed August, 13, 2013.

Table 2: Sesame Seed Export, Price, and Value in Nigeria 2003-2010

Year	Export (metric tonnes)	% change relative to 2003	Export Price USD per tonne	% change relative to 2003	Total Value USD	% change relative to 2003
2010	140,800	395.5	987	84.3	139,000,000	731.6
2009	102,400	287.6	879	64.6	90,000,000	473.6
2008	91,400	256.7	850	59.2	77,700,000	400.1
2007	82,100	130.6	828	55.6	68,000,000	357.9
2006	88,700	149.2	789	47.8	70,000,000	368.4
2005	59,600	67.4	721	35.0	43,000,000	126.3
2004	47,700	33.9	671	29.4	32,000,000	68.4
2003	35,600	-	534	-	19,000,000	-

Assessed on 13 August 2013

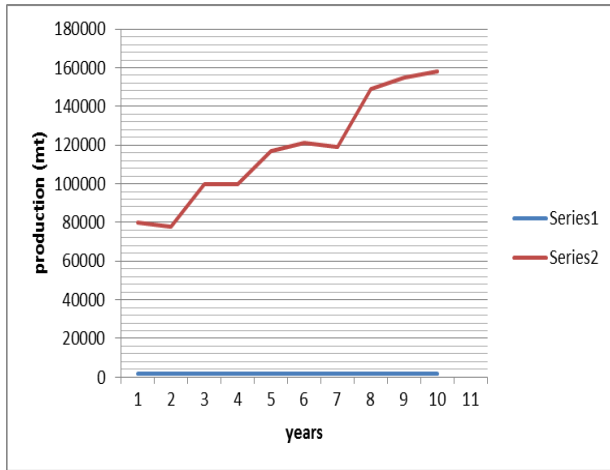


Figure 1: Sesame Production in Nigeria 2003-2012 (metric tonnes).

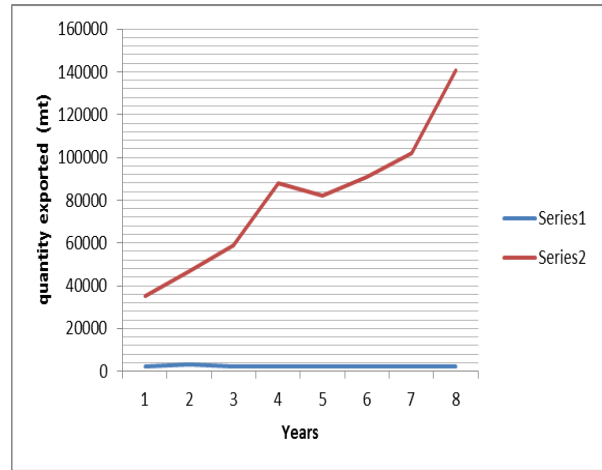


Figure 4: Sesame Seed Export Quantity in Nigeria 2003-2010 (metric tonnes).

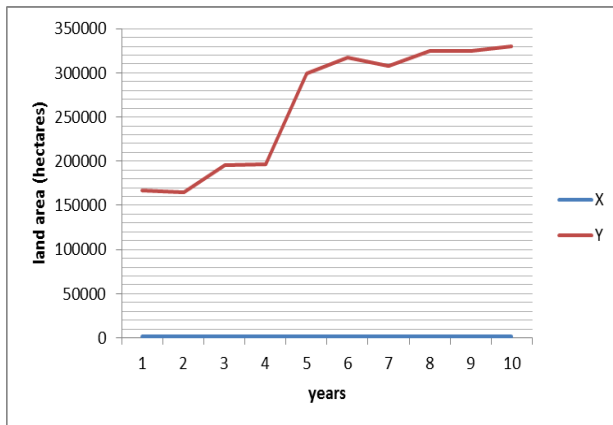


Figure 2: Sesame Crop Land Area in Nigeria 2003-2013 (hectares).

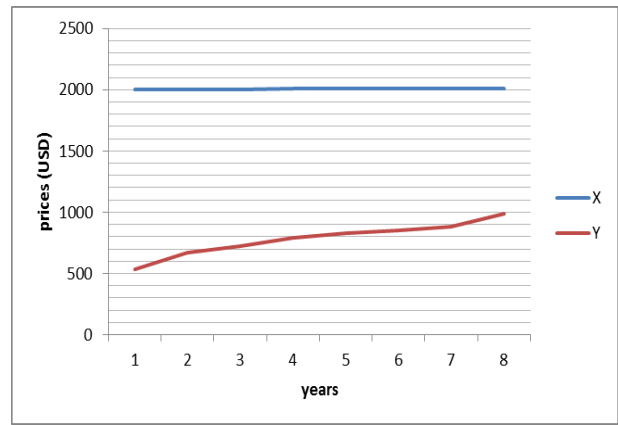


Figure 5: Sesame Seed Prices in Nigeria 2003 to 2010 (US dollars).

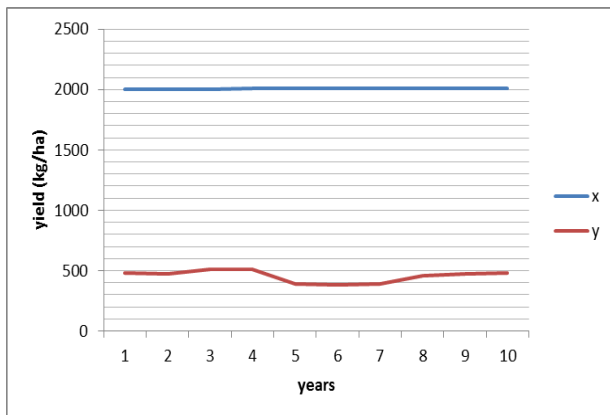


Figure 3: Sesame Crop Yield in Nigeria 2003-2012 (kg/ha).

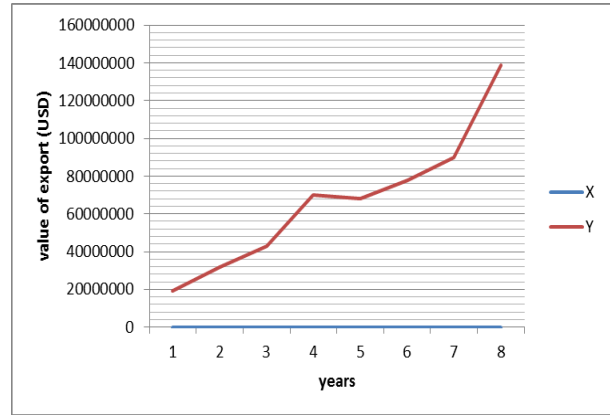


Figure 6: Foreign Exchange Generated from Sesame Export in Nigeria 2003-2010 (US dollars).

DISCUSSION

The increase in sesame seed production in Nigeria was as a result of increase in land area used for cultivation of sesame crop. Similarly increase in the foreign exchange generated was as a result of the combined increase in the quantity of sesame seed exported and price increases during the study period.

The near stable yield during the study period suggest that farmers do not adopt the use of improve varieties, agronomic practices and new technologies developed by stakeholders to increase the yield of sesame crop in Nigeria. The increase in export of sesame and money generated from its export produced a great impact on the sesame farmers; this might be responsible for the increased land area for sesame production. Considering that, sesame production in Nigeria is small holder affair, the bulk of the money generated from its export goes directly to farmers; this reduces poverty and increases the living conditions of sesame farmers in Nigeria.

CONCLUSION

The challenges facing sesame crops in Nigeria involve how to increase its yield, considering that the current trend showed increased productivity was achieved by increased land area for cultivation of the crop, which is not sustainable. The importance of the sesame crop in the generation of huge foreign exchange to the country and a reasonable income to the small holder farmers can be improve or sustained if the stakeholders can come out with measures and new technologies that can increase the yield of sesame crop in Nigeria.

REFERENCES

1. Anonymous. 2009. "Small Seed Provides Large Income". *Growing Nigeria's Sesame Industry*. USAID/MARKET. Nigeria's Harvest Market. AGbiz update October 2009.
2. Balasubramaniyan, P. and S.P. Palaniappan. 2001. "Field Crops: An Overview". In: *Principles and Practices of Agronomy*. Agrobios, India.
3. Biswas, T.K., N.K. Sana, R.K. Badal, and E.M. Haque. 2001. "Biochemical Study of Some Oil Seeds (Brassica, Sesame & Linseed)". *Pakistan J. Biol. Sci.* 4:1002–1005.

4. Burden, D. 2005. "Sesame Profile". <mhtml:file://C:\Documents and Settings\user1\Desktop\Crop Profiles.mht> (15/01/12).
5. FAO. 2010. "Food and Agricultural Organisation of the United Nation". FAOSTAT Database available on line <http://faostat.fao.org/site/567/default.aspx> (05. 12. 2011)
6. FAO. 2012. "Food and Agricultural Organisation of the United Nation". FAOSTAT Database available on line <http://faostat.fao.org/site/567/default.aspx> (28.08.2013).
7. Iwo, G.A., A.A. Idowo, and A.A Ochigbo. 2002. "Evaluation of Sesame Genotypes for Yield Stability and Selection in Nigeria". *Nigerian Agric. J.* 33: 76–82.
8. Khan, N.I., M. Akbar, K.M. Sabir, and S. Iqbal. 2001. "Characters Association and Path Coefficient Analysis in Sesame (*Sesamum indicum* L.)". *Online J Biol Sci.* 1:99-100.
9. Lalude, L.O. and J.B. Fashakin. 2006. "Development and Nutritional Assessment of a Weaning Food from Sorghum and Oil-Seeds". *Pakistan J. Nutr.* 5:257–260.

SUGGESTED CITATION

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