

Report on a Market Shelf Survey for Food Products of Genetically Modified Organisms And Glyphosate-Containing Herbicides in Nigeria





Acknowledgments

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1. BACKGROUND

Genetically Modified Organisms (GMOs) are products of genetic engineering which is also known as genetic modification (GM) or modern biotechnology. This technology allows scientists to create plants, animals and microorganisms by manipulating genes in a way that is not possible via traditional or natural processes.

Genetic manipulation of crops poses grave concern for food systems, human and environmental health. Crops are genetically modified for two main traits— to act as pesticides against target pests or to be resistant to herbicides (mostly made by the seed companies), hence GMOs are accompanied by heavy doses of chemicals which are highly toxic and linked to serious health defects.

GMOs present several risks to the environment including increased use and accumulation of toxic chemicals, soil degradation and destruction of biodiversity. Also, they have

potential to contaminate natural varieties and will persist in nature for many years.

Glyphosate, a major component of Roundup Ready herbicide which accompany a majority of genetically modified products and produced by biotechnology company, Monsanto (now Bayer) has been said to be a possible cancer-causing agent. (According to a report by the cancer research arm of the World Health Organisation in 2015). The thousands of court cases in the USA against the company Monsanto/Bayer for failure to warn citizens of the cancer-causing potential of their notorious glyphosate weed killer confirm the assertion by the World Health Organisation. In August 2018, Monsanto¹ was ordered to pay a fine of \$289 million to a user of one of its chemical products in San Francisco who was diagnosed of cancer.

Several countries have taken a stand against genetically modified food products because they have found that these products do not give the benefits or show characteristics that they are acclaimed to possess. The South African Government, in October 2018 declined authorisation of genetically modified maize for commercial production as field trial proved that data provided by the producer, Monsanto-Bayer were insufficient to demonstrate



Several countries have taken a stand against genetically modified food products because they have found that these products do not give the benefits or show characteristics that they are acclaimed to possess.

the claimed drought tolerance and insect resistance efficacy. In November 2018, the Ministry of Agriculture in Tanzania ordered the Agricultural Research Institute of the country to stop ongoing trials and to destroy remnants of GM products with immediate effect. In Kenya, stakeholders in the agricultural sector urge their government to review policies made with regards to genetically modified foods as these prove counterproductive in the long run. On glyphosate use, the German ministry of environment in November 2018 said that they would use all legal options available to end the use of glyphosate-based weed-killers and added that Germany wanted to change the approval process for all pesticides.

Modern biotechnology presents peculiar problems for a society such as Nigeria and actions that are taken to enable people make informed choices in other places like Europe and North America would be difficult to implement here. A case in point is the labelling of products made with/ of genetically modified organisms (GMOs). The largely informal market system in Nigeria will not allow for the labelling of these products and thus people are eating foods that are harmful without their knowledge.

Products of genetic engineering and harmful herbicides are the in Nigerian markets but little or nothing is being done to regulate or check them. The Director of the National Biosafety Management Agency (NBMA) mentioned during a twitter chat in February 2018 that there are genetically modified food products in our markets but how many Nigerians know about these products? Very few. In the last quarter of 2018, HOMEF conducted a survey in major superstores in ten different Nigerian cities and found over 30 different products (including vegetable oils, cereals, noodles, ice cream, salad creams, food spices) labelled to be produced with genetically modified ingredients. These products were mostly imports from USA, China, India and South Africa.

2. OBJECTIVE OF THE SURVEY

HOMEF conducted a follow-up survey of our markets, revisiting cities earlier surveyed and a few others to check the presence of genetically modified products and to further increase awareness on their implications. The survey identified food products which are clearly labeled as:

- being produced with genetic engineering/genetic modification
- II. containing genetically modified ingredients

The survey also took note of herbicides sold in markets across the nation which contain glyphosate, that in addition to being linked with cancer, is implicated in the destruction of biodiversity as seen in the reduced population of bees.

3. METHODOLOGY

The survey was carried out in November and December 2019 in 9 major cities and at least 10 shops/ supermarkets were visited per city. In addition to checking whether or not food products were made of genetic engineering or contained genetically modified ingredients, the survey took note of the companies producing the items and in what countries they are produced. The survey records the manufacturing and expiry dates on products.

Cities in which survey was carried out

- Lagos, Lagos State
- Port Harcourt, Rivers State
- Abuja, FCT
- Kano, Kano
- Benin City, Edo State
- Calabar, Cross Rivers State
- Ibadan, Oyo State
- Enugu, Enugu State
- Warri, Delta State

3.1. Use of Template

- I. Pictures were taken of products seen to be made by genetic engineering and/or containing genetically modified ingredients.
- II. Needed information was recorded on phone/jotter.
- III. Charts were completed at home (not in the shops).

3.2. Products that got special attention

- I. Cereals (rice, wheat, millet, corn) and their by-products
- II. Products having soy (e.g. vegetable oils, salad cream)
- II. Biscuits/Chocolates
- IV. Ice cream
- V. Food spices
- VI. Products made in USA, China, India, South Africa, Canada, Brazil, Australia, Argentina, Chile, Costa Rica, Uruguay, Paraguay, Colombia, Mexico and other South American countries, Pakistan, Spain, Portugal and Czech Republic
- VII. Roundup Ready and other glyphosate containing herbicides.

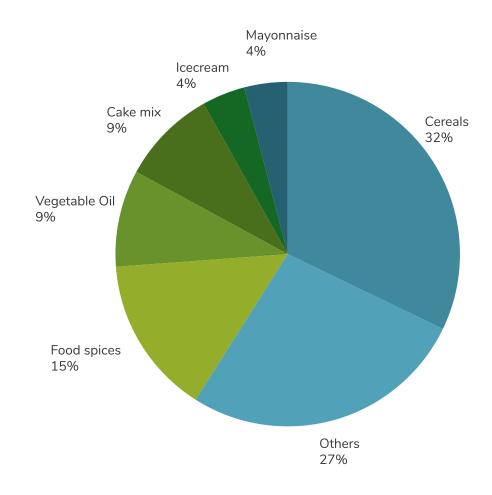
4. RESULT

4.1a. Groups of Food Products Seen to be Genetically Modified or Having Genetically Modifed Ingredients. 2019

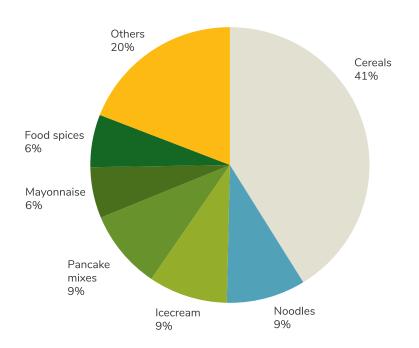
This survey revealed the presence of 47 products that are said to contain genetically modified ingredients or produced with genetic engineering. These products are spread across supermarkets and stores in the nine states that were surveyed. The products included vegetable oils, cereals, ice cream, chocolates, food spices, mayonnaise/salad cream, cake mix etc. and were mostly imports from USA and South Africa. Genetically modified ingredients were mostly corn and soy.

In 2018, products labeled as produced with genetic engineering or as containing genetically engineered ingredients were seen in seven (7) cities and were thirty-two (32) in number. They included: cereals, mayonnaise/salad cream, biscuits, chocolates, ice cream, noodles, cake/pancake mix, food spices, vegetable oils and were mostly imports from USA, China, India, South Africa. Genetically modified ingredients labeled were largely corn and soy.

A total of 15 new food products of genetic modification were seen in the 2019 survey and they included varieties of vegetable oils, cereals, food seasoning/spices and mayonnaise



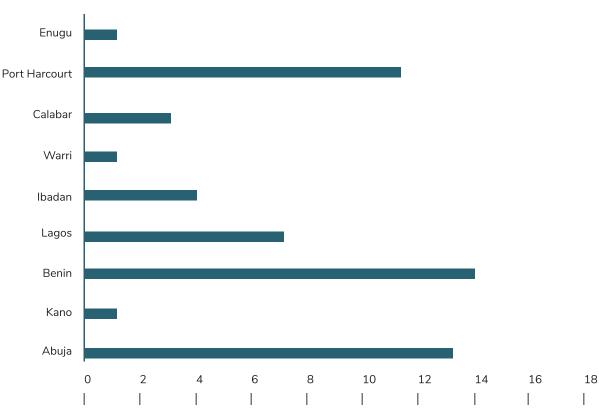
4.1b. Groups of Food Products Seen to be Genetically Modified or Having Genetically Modifed Ingredients. 2018



Fewer products were seen in some cities and this is possibly linked to the border closure and the fact that many of them have been sold out due to the approaching festive season. In some other places, it was difficult to take data as shop owners were apprehensive and disallowed the process.

Overall, the open/general markets were less tolerant and objected to pictures of items being taken in their shops.

4.2. Number of Genetically Modified Food Products seen per City. 2019



Several products were seen to have the inscription "modified" on some of their ingredients e.g. modified starch, modified corn flour or potato starch. Although a number of persons have indicated² that they get allergenic reactions to modified starches, for example, there is no indication that they are genetically modified.

Other ingredients which were noted and are linked with genetic modification include: soy lecithin, maltodextrin and aspartame.

Up to 25 glyphosate-containing herbicides were identified in the markets. Some of the herbicides spread across several Nigerian agrochemical markets that are seen to contain glyphosate as an active ingredient are: Roundup Turbo, Force Up, Glycel, Glyphosate, Uproot, Weed Pro, Glyspring, Royasate, Glyphotex, Relisate, Top-G-Sate, Rake Out, Sunsate etc.





4.3. Result Charts Per City

4.3.1. Abuja, FCT

Sh	Shop A (04/12/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Extended life Vegetable Oil	UK	KTC Edibles Itd	Best before: 12 Nov. 2020	Produced from genetically modified soy.		
2	Aunt Jemima Original Syrup	Chicago	Quaker Oats Company of Chicago, a subsidiary of PepsiCo.	BB Jun 19, 20.	Produced with genetic engineering		
3	Knorr Aromat Original Seasoning	South Africa	Unilever ltd	BB 04 Sep 20	Maize flour (genetically modified)		
4	Remia Mayonnaise	Netherlands	Remia CV, Netherlands	BB 01 March 2020	Produced from genetically modified soy		

Sh	Shop B (04/12/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Blue Bunny Ice cream	USA	Wells Enterprises Inc.	BB; Best before: 11 March 2020	Produced with genetic Engineering		
2	Aunt Jemima Original Syrup	Chicago	Quaker Oats Company of Chicago, a subsidiary of PepsiCo.	BB; 06 May 2020.	Produced with genetic engineering		
3	Knorr Aromat Original Seasoning	South Africa	Unilever Itd	BB 19 August 20	Maize flour (genetically modified)		
4	Remia Mayonnaise	Netherlands	Remia CV, Netherlands	BB 30 March, 2020	Produced from genetically modified soy		

Sh	Shop C (06/12/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Progresso Panko Crispy Bread Crumbs	USA	General Mills Inc. USA	Best before: 21th Dec. 2019	Partially produced with genetic engineering		

Shop D (05/12/2019)

S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")
1	Betty Crocker, Super moist Cake mix	USA	General Mills sales, Inc, USA	Best before: 04 August. 2020	Produced with genetic Engineering.
2	Aunt Jemima Original Syrup	Chicago	Quaker Oats Company of Chicago, a subsidiary of PepsiCo.	BB; 06 May 2020.	Produced with genetic engineering
3	Knorr Aromat Original Seasoning	South Africa	Unilever ltd	BB 04 Sep 2020	Maize flour (genetically modified)
4	Betty Crocker Complete Pancake Cake Mix	USA	General Mills sales, Inc, USA	BB 07 March, 2020	Partially produced with genetic engineering
5	Remia Mayonnaise	Netherlands	Remia CV, Netherlands	BB 21 April 2020	Produced from genetically modified soy.
6	Cinnamon Toast Crunch Churros	USA	General Mills, USA	BB 13 April 2020	Partially produced with genetic engineering
7	Classic Trix	USA	General Mills, USA	BB 02 May 2020	Partially produced with genetic engineering
8	Home Run Kix Ball	USA	General Mills, USA	BB 09 June 2020	Partially produced with genetic engineering
9	Honey Nut Cheerios	USA	General Mills, USA	BB 7 April 2020	Partially produced with genetic engineering
10	Honey Bunches of Oats	USA	General Mills, USA		Partially produced with genetic engineering

S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")
1	Multi Grain Cheerios	USA	General mills, Buffalo, New York	BB; Best before: 25 May 2020	Produced from genetically modified Soya.
2	Aunt Jemima Original Syrup	Chicago	Quaker Oats Company of Chicago, a subsidiary of PepsiCo.	BB Jun 12, 2020.	Produced with genetic engineering
3	Knorr Aromat Original Seasoning	South Africa	Unilever ltd	BB 23 August 2020	Maize flour (genetically modified)
4	Cheerios	USA	General mills, Buffalo, New York	BB 05 Jun, 2020	*Trace amount of GM also known as genetically engineered material may be present due to potential cross contact during manufacturing and shipping*
5	Cinnamon Toast Crunch	Sri Lanka	General Mills, USA	BB 21 March 2020	Partially produced with genetic engineering.

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Some photos from survey in Abuja



Figure 1a: Extended Life Vegetable Oil



Figure 1b: Extended Life Vegetable Oil



Figure 2a: Aromat Seasoning



Figure 2b: Aromat Seasoning



Figure 3a: Blue Bunny Ice Cream



Figure 3b: Blue Bunny Ice Cream



Figure 4a: Classic Trix

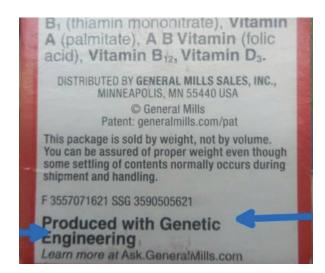


Figure 4b: Classic Trix



Figure 5a: Kix Ball



Figure 5b: Kix Ball



Figure 6a: Churros Cinnamon Toast Crunch



Figure 6b: Churros Cinnamon Toast Crunch

4.3.2. Port Harcourt

Sh	Shop A (18/11/2019)					
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")	
1	Goya Red Bean	South America		Mar 2021	Produced with modified gene	
2	Layo Bean Product	Canada		2022	Produced with modified gene	
3	Spaghetti Meat Ball	Italy		July 2023	#GMO	

Sh	Shop B (19/11/2019)					
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")	
1	Fruity Pebbles	USA		2020	With genetic engineering	
2	Cinnamon Chex	USA		26 Jan 2020	Genetic engineering	
3	Cento Recipes				Has genetic modification in its ingredients	
4	Goya Black Beans	South America		Mar 2018/ Mar 2021	Genetic modified salt	

5	Chicken Gravy	USA	Sept 28 2020	Genetic modified crop
6	Spaghetti Original	Italy	June 2018/ July 2023	Has GMO
7	Spaghetti Meatball	Italy	June 2018/ July 2023	Has GMO
8	Original Mama Real Mayonnaise			Genetic modified soy
9	Sera Hot Dog		Jan 2018/ Feb 2023	Mechanically genetically separated
10	Shake N' Bake	USA	2 Dec 2020	With genetic engineering

Sh	Shop C (20/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Original Mama Real Mayonnaise				Genetic modified soy		

Sh	Shop D (21/11/2019)					
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")	
1	Fruity Pebbles	USA		26 Jan 2020	With genetic engineering	
2	Cinnamon Chex	USA		26 Jan 2020	Genetic engineering	

Some photos from survey in Port Harcourt



Figure 7a: Campbell's Chicken Gravy



Figure 7b: Campbell's Chicken Gravy



Figure 8a: Shake 'N Bake Panko



Figure 8b: Shake 'N Bake Panko



Figure 9a: Cinnamon Chex

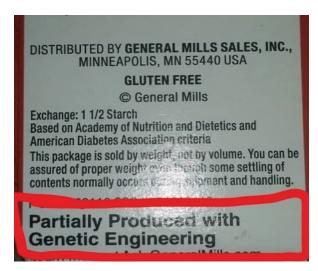


Figure 9b: Cinnamon Chex



Figure 10a: Fruity Pebbles



Figure 10b: Fruity Pebbles

WHAT'S ON OUR PLATES? 2019 REPORT

4.3.3. Benin City

S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contair genetically modified soy")
1	Honey Bunches of Oat	USA	Post-Consumer Brands, LLC	-	Partially produced with genetic engineering
2	Cookie Crisp	USA	General Mills Sales Inc.	Best used by 17 Feb. 2020	Produced with genetic engineering
3	Cocoa Puffs	USA	General Mills Sales Inc.		Produced with genetic engineering
4	Multi Grain Cheerios	USA	General Mills Sales Inc	Best Used by 22 May 2020	Partially produced with genetic engineering
5	Oreo's Cereal	USA	Post-Consumer Brands, LLC	-	Partially produced with genetic engineering
5	Ragu Pizza Sauce	USA	Mizkan America, Inc	BB August 2020	Partially produced with genetic engineering
7	Remia Mayonnaise	Netherlands	Remia CV	-	Produced with genetically modified soy
3	Kirkland Vegetable Oil	Packed in the USA	-	BB April 2020	Produced with genetic engineering
9	Kirkland Canola Oil	Canada	-	BB April 2020	Produced with genetic engineering
10	Nature Valley (Granola Bar)	USA	General Mills Sales Inc	-	Partially produced with genetic engineering

11	Betty Crocker Super Moist Cake Mix	USA	General Mills Sales Inc	-	Partially produced with genetic engineering
12	Aunt Jemima Syrup	USA	The Quaker Oats Company	-	Produced with genetic engineering
13	Betty Crocker Complete Pancake Mix	USA	General Mills Sales Inc		Produced with genetic engineering

Sh	Shop B (11/11/2019)								
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	Aunt Jemima Syrup	USA	The Quaker Oats Company	-	Produced with Genetic Engineering				
2	Remia Mayonnaise	Netherlands	Remia CV	-	Produced with Genetically Modified Soy				
3	Betty Crocker Super Moist Cake Mix	USA	General Mills Sales Inc	-	Partially Produced with Genetic Engineering				

SI	Shop C (11/11/2019)								
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	Pride Vegetable Oil	UK	Westmill	-	Produced from genetically modified soybeans				

Some photos from survey in Benin City



Figure 11a: Kirkland Vegetable Oil



Figure 11b: Kirkland Vegetable Oil



Figure 12a: Ragu Pizza Sauce



Figure 12b: Ragu Pizza Sauce



Figure 13a: Pride Vegetable Oil



Figure 13b: Pride Vegetable Oil



Figure 14a: Nature Valley Granola Bar

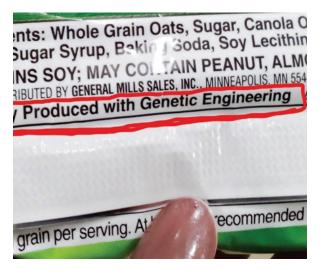


Figure 14b: Nature Valley Granola Bar

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4.3.4. Lagos

Sh	Shop A (29/11/2019)								
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	BOKOMO (Wheat Free)/Cereal	South Africa	Pioneer foods		Genetically modified soy, genetically modified maize				
2	Bokomo (Rusks)	South Africa	Pioneer foods		Partially produced with genetic engineering				

	Shop B (12/11/2019)								
Si	/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")			
1		Bisquick/Cereals	U.S.A	General Mills Sales Inc		Partially produced with genetic engineering			

Sh	Shop C (20/11/2019)									
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")					
1	Blue Bunny Vanilla Bean/ ice cream	U.S.A	Wells Enterprise INC		Produced with genetic engineering					

Sh	Shop D (16/11/2019)								
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	Blue Bunny Ice Cream (cookies & cream)	U.S.A	Wells Enterprise INC		Produced with genetic engineering				

5	Shop E (21/11/2019)								
S/I	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	Blue Bunny (Vanilla)	U.S.A	Wells Enterprise INC		Produced with genetic engineering				

	Shop F (16/11/2019)								
S/	/N Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	Ham & Pineapple Thin pizza	India	Horeca Products		Partially produced with genetic engineering				

Sh	Shop G (16/11/2019)								
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	Meat Feast Deep Pan Pizza	India	Horeca Products		Partially produced with genetic engineering				

Sh	Shop H (21/11/2019)								
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")				
1	Aunt Jemima Syrup	U.S.A	The Quaker Oat Company	Domino pizza	Partially produced with genetic engineering				

	Shop I (16/11/2019)						
S	/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")	
1		Blue Ribbon Ice Cream	U.S.A	Wells Enterprise INC		Partially produced with genetic engineering	

Sh	Shop J (21/11/2019)							
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")			
1	Blue Bunny (Butter Pecan)	U.S.A	Wells Enterprise INC		Produced with genetic engineering			

Some photos from survey in Lagos



Figure 15a: Bisquick Pancake and Baking Mix



Figure 15b: Bisquick Pancake and Baking Mix



Figure 16a: Bokomo ProNutro Cereal



Figure 16b: Bokomo ProNutro Cereal

4.3.5. Calabar

Sh	Shop A (17/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Lucky Charms cereal	Minneapolis USA	General Mills Sales INC,	Expiry: June 2020	Partially produced with genetic engineering (modified corn starch)		

Sh	Shop B (18/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Jiffy chocolate- muffin mix	London	Chelsea Milling Company	January 23 2020	Partially produced with genetic engineering		
2	Oven fry chicken coating mix	USA	Kraft Heinz Company, Chicago	Expiry 12 January 2021	Partially produced with genetic engineering		

Some photos from survey in Calabar



Figure 17a: Lucky Charms Cereal



Figure 17b: Lucky Charms Cereal



Figure 18a: Jiffy Chocolate Mix

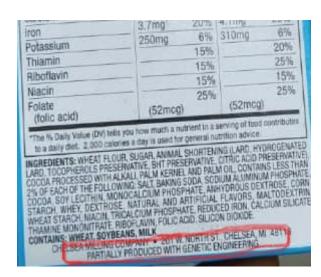


Figure 18b: Jiffy Chocolate Mix

4.3.6. Kano

Sh	Shop A (20/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Knorr – Spice	South Africa		31/5/2018 - 31/5/ 2020	#GMO		

Some photos from survey in Kano



Figure 19a: Knorr Chicken Spice

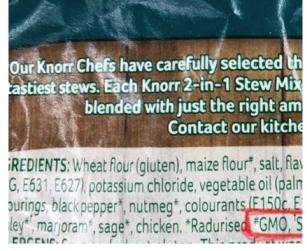


Figure 19b: Knorr Chicken Spice

4.3.7. Ibadan

Sh	Shop A (14/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Imana- Soup	New Germany	Not-indicated	27/09/2018 – 26/09/2020	May contain genetically modified ingredients		
2	Imana – Beef flavor cubes	New Germany		Jan 2020	May contain genetically modified ingredients		

Sh	Shop B (19/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Ritebrand – Stock cubes	South Africa		Feb 2021	Genetically modified ingredients		
2	Spice supreme – Salt free seasoning	U.S.A		07/03/2021	Partially produced with genetic engineering		

Some photos from survey in Ibadan



Figure 20a: Spice Supreme Seasoning



Figure 20b: Spice Supreme Seasoning



Figure 21a: Ritebrand Stock Cubes



Figure 21b: Ritebrand Stock Cubes

4.3.8. Enugu

Sh	Shop A (17/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Mama Real Mayonnaise	Netherlands	-	M: 11/04/2019	Produced from genetically modified soy		

Some photos from survey in Enugu



Figure 22a: Mama Real Mayonnaise



Figure 22b: Mama Real Mayonnaise

4.3.9. Warri

Sh	Shop A (/11/2019)						
S/N	Name/Kind of Product (E.g. "Cornflakes-Cereal")	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "produced with genetic engineering" or "contain genetically modified soy")		
1	Aunt Jemima "Original Syrup"	Chicago USA	The Quaker Oat Company	2016	Produced with genetic engineering		

Some photos from survey in Warri



Figure 23a: Aunt Jemima Syrup



Figure 23b: Aunt Jemima Syrup



4.4. Glyphosate-Containing Herbicides

4.4.1. Port Harcourt

Sh	Shop A (18/11/2019)							
S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")			
1	Roundup Turbo				480 g			
2	Alligare				5.4g			

Sh	Shop A (18/11/2019)							
S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")			
1	Guardian Dikkat				480 g			
2	Roundup Turbo				480 g			
3	Alligare				5.4g			
4	Weed Pro				41g			
5	Weed And Grass Killer				41g			
6	Buccaneer Plus				41g			

4.4.2. Ibadan

Shop A (22/11/2019)						
S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")	
1	Top G-Sate	China	Royal Teesquare Trade and Investment Ltd, Ilorin	10/03/2019 – 10/03/2022	360g/L glyphosate	
2	Relisate	China	Reliable Agro allied Ltd, Lagos		41% glyphosate IPA	
3	Glyspring	China	Springfield Agro limited, Lagos	Nov 2017- Nov 2020	Glyphosate 41% SL	
4	Force up		Jubaoli Agrotec	02/07/2019- 02/07/2022	360g glyphosphate/litre	
5	Royasate				Glyphosate IPA 41% SL	
6	Rake out		Reliable Agro Allied Itd, Lagos		360g/l glyphosphate	
7	Glyphotex	China	Amarshal Com. Agro & Tec. Ltd, Kano			

Shop E	3 (23/11	/2019)
	/ (/	, 2010

S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")
1	Top G-Sate	China	Royal Teesquare Trade and Investment Ltd, Ilorin	10/03/2019 – 10/03/2022	360g/L glyphosate
2	Relisate	China	Reliable Agro allied Ltd, Lagos		41% glyphosate IPA
3	Glyspring	China	Springfield Agro limited, Lagos	Nov 2017- Nov 2020	Glyphosate 41% SL
4	Force up		Jubaoli Agrotec	02/07/2019- 02/07/2022	360g glyphosphate/litre
5	Royasate				Glyphosate IPA 41% SL
6	Rake out		Reliable Agro Allied Itd, Lagos		360g/l glyphosphate
7	Glyphotex	China	Amarshal Com. Agro & Tec. Ltd, Kano		

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Shop C (25/11/2019)

S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")
1	Top G-Sate	China	Royal Teesquare Trade and Investment Ltd, Ilorin	03/06/2019 – 03/06/2022	360g/L glyphosate
2	Relisate	China	Reliable Agro allied Ltd, Lagos	11/07/2018 - 11/07/2021	41% glyphosate IPA
3	Glyspring	China	Springfield Agro limited, Lagos	Oct 2018- Oct 2021	Glyphosate 41% SL
4	Force up		Jubaoli Agrotec	05/10/2019- 05/10/2022	360g glyphosphate/litre
5	Royasate			May 2017 May 2020	Glyphosate IPA 41% SL
6	Rake out		Reliable Agro Allied Itd, Lagos	22/02/2018 - 22/02/2021	360g/l glyphosphate
7	Glyphotex	China	Amarshal Com. Agro & Tec. Ltd, Kano	09/06/2019 - 09/06/2022	

Shop D (25/11/2019)

S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")
1	Top G-Sate	China	Royal Teesquare Trade and Investment Ltd, Ilorin	10/03/2019 – 10/03/2022	360g/L glyphosate
2	Clear force	China	Reliable Agro allied Ltd, Lagos		250g/l glyphosate
3	Glyspring	China	Springfield Agro limited, Lagos	July 2017- July 2020	Glyphosate 41% SL
4	Force up		Jubaoli Agrotec	08/05/2019- 08/05/2022	16.5% glyphosphate
5	Easycliar				Glyphosate 80%
6	Rake out		Reliable Agro Allied Itd, Lagos		360g/l glyphosphate
7	Glyphotex	China	Amarshal Com. Agro & Tec. Ltd, Kano		45g/I glyphosate

4.4.3. Calabar

Shop A (22/11/2019**)** S/N Name of Product Made in which country Made/Distributed in Manufacture/Exp. Remark (e.g. "contains -% of Nigeria by: **Dates** glyphosate") 1 Glyspring Tangzhou Zhenda Spring Field Agro limited. Mfg 11/2/17 480 gm/Litre 122-132 Oshodi Apapa Pesticides and Expiry 11/01/2020 Express way, Isolo, Lagos, Chemicals Company Nigeria ltd. Tonyang Industrial Park, Jiangsu, China 2 Force up Zhejiang Xinan Chemical Jubali Agrotech, Nigeria Mfg 03/10/19 360 g/L in form of 480 g/L Industrial Group Itd. 93 Expiry: 3/10/2022 glyphosate isopropylamine salt Dagiao Road, Xianan Zhejiang, China 3 Clearweed Harvest Field Industries Harvest Field Industries Mfg 04/13/19 360 g/L in form of 480 g/L limited. No1 Isheri Road, Expiry 04/12/22 glyphosate isopropylamine salt limited. No1 Isheri road. Olowora Junction, Omole Olowora Junction, Omole Phase 11, Ikeja, Lagos. Phase 11, Ikeja, Lagos. **Bush Klear** Leshan Fuhua Tongda Lionseal Agro-industries, Mfg 10/06/18 41% 4 Trade Company Ltd, No 26B. Abimbola Street. Exp 10/06/21 Guangzhou China Isolo Industrial Estate, Lagos Nigeria

Sh	Shop B (24/11/2019)							
S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")			
1	Glysate	Nantong Agrochemical Limited Liability company, Jinagshu, China	Lionseal Agro industries, No 26B, Abimbola Street, Isolo Industrial Estate, Lagos Nigeria	Mgf 25th june, 2017 Exp 25th june 2020	41%			
2	Bush Klear	Leshan Fuhua Tongda Trade Company Ltd, Guangzhou China	Lionseal Agro-industries, No 26B, Abimbola Street, Isolo Industrial Estate, Lagos Nigeria	Mfg 10/06/18 Exp 10/06/21	41%			

4.4.4. Enugu

Sh	Shop A (15/11/2019)							
S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")			
1	Glycel Glyphosate	Nigeria	Lionseal Industries Ltd Kano	M: 08/11/2017 E: 07/11/2019	Contain 41% glyphosate			
2	Touchdown Forte Hi Tech	Switzerland		M: 04/2018 E: 04/2020	Contain 500g/L glyphosate			
3	Sunsate	Nigeria	Jubaili Agrotech Ltd	M: 25/10/2018 E: 25/10/2012	360g/L glyphosate			
4	Force Up	Nigeria	Jubaili Agrotech Ltd	M: 01/05/2019 E: 01/05/2022	480g/L glyphosate			
5	Gobara	Nigeria	Saro Agrosciences Ltd	M: 4/10/2018 E: 4/10/2021	360g/L glyphosate			
6	Glyspring	Nigeria	Sprringfield Agro Ltd	M: 10/2018 E: 10/2021	41% glyphosate			
7	Wipe Out	Nigeria	Amanik Investment Ltd	M: 25/4/2017 E: 25/4/2020	41% glyphosate			
8	Uproot	Nigeria	Saro AgroSciences Ltd	M: 15/01/2019 E: 15/01/ 2022	480g/L glyphosate			
9	Royasate	Nigeria	Totmak Farmers Center	M: 20/06/2018 E: 19/06/2021	41% glyphosate			
10	Sunsate (Granules)	Nigeria	Jubaili Agrotech	M: 12/2017 E: 12/2020	75.7% glyphosate			

4.4.5. Warri

Sh	Shop A (20/11/2019)						
S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")		
1	Sunphosate (360 SL Glyphosate)	China	Zhejiang Xinan Chemical Group Co. Ltd, Zhejiang Province China / WYNCA Sunshine Agric Products Company, Lagos	20-02-2019 / 19- 02-2022	360g Glyphosate		
2	Force up	China	Zhejiang Xinan Chemical Group Co. Ltd, Zhejiang Province China / Jubaila Agrotec, Nigeria	27-06-2019 / 27-06- 2022	360g Glyphosate		

Shop B (20/11/2019)					
S/N	Name of Product	Made in which country	Made/Distributed in Nigeria by:	Manufacture/Exp. Dates	Remark (e.g. "contains -% of glyphosate")
1	Force-Up	China	Zhejiang Xinan Chemical Group Co. Ltd, Zhejiang Province China / Jubaila Agrotec, Nigeria	27-06-2019 / 27- 06-2022	360g Glyphosate
2	Sunphosate (360 SL Glyphosate)	China	Zhejiang Xinan Chemical Group Co. Ltd, Zhejiang Province China / WYNCA Sunshine Agric Products Company, Lagos	20-02-2019 / 19-02- 2022	360g Glyphosate

Photos of Some of the Herbicides



Figure 24: Roundup Turbo



Figure 26: Royasate



Figure 25: Force Up



Figure 27: Glyphosate

5. CONCLUSION

HOMEF by this report implores the government of Nigeria to ensure strict surveillance of our borders to check the importation of these products of genetically modified organisms (GMOs). As a people we must be conscious of the food we eat, how it is produced and the impact it has on us when consumed. It is time Nigeria to conduct independent long term analysis on the implications of GM foods; we cannot rely on the word of the producers and promoters of this technology as already, these products are linked³ with the increasing incidences of allergic reactions, birth disorders, cancers, Alzheimer's, liver and kidney problems.

On the other hand, the use of glyphosate-based herbicides should be banned. Arising from the risks associated with their use, particularly the recent and numerous cancer cases resulting from their use, up to 20 countries⁴ in the world have placed either partial or total ban on glyphosate-containing herbicides. In 2017⁵, the European Union representing 28 countries and over 500 million people voted for a phase out of glyphosate before year 2022 and an immediate ban of its use in households. It is dangerous that these chemicals are abundant in our markets, even with NAFDAC registration numbers. Our farmers are exposed to greater harm than their counterparts in the USA, for example, because they don't wear protective gears while applying the chemicals.

This report examines the labelled food products of genetic modification and does not ignore the numerous other products in open markets and/or in processed forms that are not labelled. The report also does not ignore the approval of importation of genetically modified crops like maize into the country, supposedly for production of animal feeds, but which may be used for other purposes. It is needful to reiterate here that genetic modification is not the answer to food or agricultural problems in Nigeria but merely an innovation looking for markets. Our focus rather should be on tackling the root causes of such challenges including poor access to land, poor infrastructure, lack of support for farmers in terms of credit and loans, and degradation of soils due to the use of chemicals fertilizers.

An important step in the right direction will be for Nigeria to place a ban on genetically modified foods and for effective collaborations between all concerned agencies to ensure the protection and preservation of the life and health of the people and the environment.

End Notes

¹ https://www.theguardian.com/business/2018/aug/10/monsanto-trial-cancer-dewayne-johnson-ruling

² https://www.bobsredmill.com/blog/healthy-living/modified-food-starch-demystified/

³ https://www.researchgate.net/publication/283462716_Genetically_engineered_crops_glyphosate_and_the_deterioration_of_health_in_the_United_ States_of_America

 $^{^4}$ https://sustainablepulse.com/2019/05/28/glyphosate-herbicides-now-banned-or-restricted-in-17-countries-worldwide-sustainable-pulse-research/#.XhL1CPZFzIU

⁵ https://www.ecowatch.com/european-parliament-ban-glyphosate-2500863218.html

6. APPENDICES

6.1. About HOMEF

HOMEF is the ecological think tank and an advocacy organization promoting environmental/climate justice and food sovereignty in Nigeria and Africa.

Our main thrust is examining the roots of exploitation of resources, peoples and nations. We nurture movements for the recovery of memory, dignity and harmonious living with Mother Earth.

HOMEF believes in the rights of Mother Earth, the need to equip communities to push back oppression and the need for justice for the environment, our food systems and natural cycles at every level of policy engagement.

HOMEF believes in contextual solutions over externally generated and imposed ideas and is firmly rooted in the ideals of solidarity and dignity.

Our Core Values: Justice& Equity in all circumstances, People and the planet in harmony and free from exploitation, Dignity (Respect), Action (Solidarity), Knowledge

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6.2. Selected Publications by HOMEF

- 1. Eco-Instigator (quarterly journal)
- 2. Threat to Fisheries in the Gulf of Guinea
- 3. Assessing Clean Drinking Water Availability in Juba, South Sudan
- 4. Resource Democracy
- 5. Living in Fear-Juan Lopez Villar
- 6. Community Dialogue Guide (Oil/Gas)
- 7. Community Dialogue Guide (Forest)
- 8. Community Dialogue Guide (FishNet)
- 9. Not on our Plates: Nigeria Does Not Need GM Food
- 10. Community Dialogue Guide (Food and Farming Systems)
- 11. Oil Politics: Echoes of Ecological Wars-Nnimmo Bassey
- 12. Community Guide to Environmental Monitoring and Reporting
- 13. Oil, Power and a Sign of Hope-Klaus Steiglitz with Sabine Pamperrien
- 14. Nigeria's Biosafety Management Agency Act 2015: In Whose Interest?
- 15. Resistance to the Military-Corporate Wedlock in Nigeria and Beyond-Nnimmo Bassey (With TNI)
- 16. To Mint an Illusion: Economic + Poverty Growth in an Extractive Rentier State-Nnimmo Bassey and Patrick Bond
- 17. Beyond Oil: Reimaging Development in the Niger Delta-Ken Henshaw, Ify Malo, Irikefe V. Dafe, Nnimmo Bassey



6.3. What's on our Plate (2018)



https://homef.org/wp-content/uploads/2019/01/Report-on-Market-Shelves-Survey-for-GM-Food-Products-2018-web.pdf



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