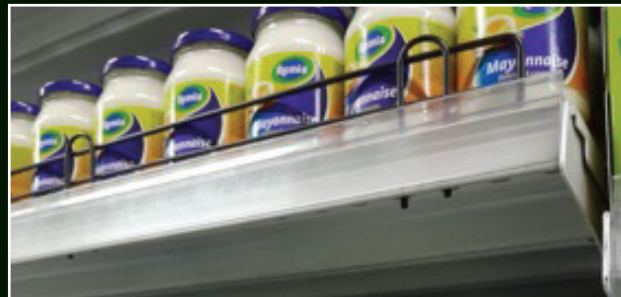


# WHAT'S ON OUR PLATES?



**2023 EDITION**

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



**HOME F**  
HEALTH OF MOTHER EARTH foundation



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# Disclaimer

This is intended to clarify the fundamental objectives, ethical principles, and methodology behind this exercise. The market shelf survey for products of genetically modified organisms (GMOs) in Nigeria is primarily intended for information and education purposes.

We have deliberately left out the names of the super-markets where the survey was carried out. The inclusion of product brands, cities/states is purely to ensure a comprehensive and unbiased analysis.

We emphasise that the inclusion of brand names is not intended to disparage any specific entity. Instead, the intent is to equip the government, business owners, and consumers with essential information to make informed and responsible decisions regarding the selection and consumption of GMOs or their derived products.

Thus, this survey is designed to raise awareness on the presence/list of GMOs on our market shelves; enable informed decision making and strengthen surveillance and stringent regulation of what's on our plates.

# 1. BACKGROUND

A Genetically Modified Organism (GMO) is a plant, animal, microorganism, or other organism whose genetic makeup has been modified using genetic engineering or transgenic technology. This creates combinations of plant, animal, bacterial and virus genes that do not occur in nature or through traditional crossbreeding methods<sup>i</sup>. The technology is often called “modern biotechnology” or “gene technology”, sometimes also “recombinant DNA technology” or “genetic engineering”. It allows selected individual genes to be edited within an organism or transferred from one organism into another, also between nonrelated species. Foods produced from or using GM organisms are referred to as GM foods<sup>ii</sup> or simply GMOs.

There are several issues of concern with the use of GMOs including: the capability of the GMO to escape and potentially introduce the engineered genes into wild populations; the persistence of the gene after the GMO has been harvested; the susceptibility of non-target organisms (e.g. insects which are not pests) to the gene product; the stability of the gene; the reduction in the spectrum of other plants including loss of biodiversity; and increased use of chemicals in agriculture.<sup>iv</sup> Consumption of GM foods have been linked by several studies to cancers,<sup>v</sup> immune disorders, Alzheimer’s, birth defects and more. Glyphosate, a major component of Roundup Ready herbicide which accompanies a majority of genetically modified products and produced by biotechnology company, Monsanto (now Bayer) has been shown to be a cancer-causing agent.<sup>vi</sup>

There is no scientific consensus on the safety of GMOs. According to a 2015 statement signed by 300 scientists, physicians and scholars, the claim of scientific consensus on GMOs frequently repeated in the media is “an artificial construct that has been falsely perpetuated. Nearly all studies that claim GMOs safe are funded by the very biotechnology corporations that profit from the sales of the GM products.

To date, there have been no epidemiological studies investigating potential effects of GMO food on human health. Most of the research used to claim that GMOs are safe have been performed by biotechnology companies.

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 would eat foods that are harmful without their knowledge. Most Nigerian farmers are uneducated and 52.07% of these farmers had either not heard of or know of any benefits, risks /costs of GM crops (Obi-Egbedi, et al., 2020). Even the supposedly Nigerian elites are largely uninformed about GMOs. The argument that GM are needed to secure future food production simply reflects corporate interests (Jacobsen et al., 2013).

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<sup>i</sup> <https://www.nongmoproject.org/gmo-facts/science/>

<sup>ii</sup> <https://www.who.int/news-room/questions-and-answers/item/food-genetically-modified>

<sup>iv</sup> Food, genetically modified (who.int)

<sup>v</sup> <https://www.mhe.ltd/do-genetically-modified-foods-gmos-encourage-cancer-development/>

<sup>vii</sup> <https://www.sciencedirect.com/science/article/abs/pii/S1383574218300887>

Since 2015 after the set-up of the National Biosafety Management Agency (NBMA) through the NBMA Act, several products of genetically modified organisms (GMOs), have been deployed into the country for various purposes - food, feed, processing, field trial, and market placement. As of 01 December 2023, according to information on the Biosafety Clearing House of the United Nations Convention on Biological Diversity, Nigeria has so far approved 24 GM products - 11 for Field trials; 3 for commercial release; and 10 for food, feed and/or processing. The process of these approvals has been less than transparent as publication of applications permits are published in very limited places. Even when opinions based on scientific review of such applications are sent, there is no evidence that they are considered.


Besides the food crops approved for use in Nigeria, several processed foods containing genetically modified ingredients are in our market shelves. In 2018 and 2019 HOMEF conducted a survey of the Nigerian Market and found over 45 products labelled as containing genetically modified ingredients and/or to be produced with genetic engineering. The question of who is checking the importation of these processed foods with genetically modified ingredients is left unanswered.

These products including cereals, vegetable oil, noodles, food spices, cake mixes, syrups, mayonnaise, and ice-cream which Nigerians regularly consume are made from genetically modified plants such as corn and soy. The products were also found to be mostly imports from USA, China, India and South Africa.

The findings of the survey further support our claim that implementing GMO labeling in Nigeria may not effectively shield our populace from GMO-related consequences. This is largely due to the fact that a significant portion of our population does not routinely read labels, and even when they do, the information provided is often difficult to discern. In our engagement with diverse stakeholders, we observe the shock and concern in people's expressions when they learn about the presence genetically modified ingredients in very commonly consumed products on our market shelves.

Generally, labelling is nearly impossible to effect in Nigeria because of our socio-economic system and the way food is sold and consumed. This finding confirmed our concern that the public's right of choice and right to food is being trampled.

The current survey is a follow up on the previous ones to ascertain the status of processed GM food products in our market shelves and encourage more stringent regulations.



*In our engagement with diverse stakeholders, we observe the shock and concern in people's expressions when they learn about the presence genetically modified ingredients in very commonly consumed products on our market shelves.*

## 2. OBJECTIVE OF THE SURVEY

HOMEF carried out a subsequent survey of our markets, revisiting previously surveyed cities and a selection of others, to assess the prevalence of genetically modified products and to enhance awareness of their implications.

The survey targeted food products which are clearly labeled as: I. being produced with genetic engineering/genetic modification II. containing genetically modified ingredients. Although 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 10 major Nigerian cities and at least 10 shops/ supermarkets were visited per city. In addition to checking whether 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.

### 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

Pictures were taken of products seen to be made by genetic engineering and/or labelled to be containing genetically modified ingredients.

- 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)
- III. 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. Glyphosate containing herbicides

## 4. RESULTS

The 2023 survey revealed the presence of thirty-eight (38) products that are labelled to contain bioengineered/genetically modified ingredients. The survey revealed twenty-four products of GMOs not seen in previous surveys. This shows a 60% increase in the number of new GM products seen in our market shelves.

Another important observation in this survey is that the language of the labels is different from what was seen in previous surveys. Most of the products are currently labeled as **containing bio-engineered ingredient(s)** as opposed to **produced/partially produced with genetic engineering** which was the most common label in products seen in 2018 and 2019.

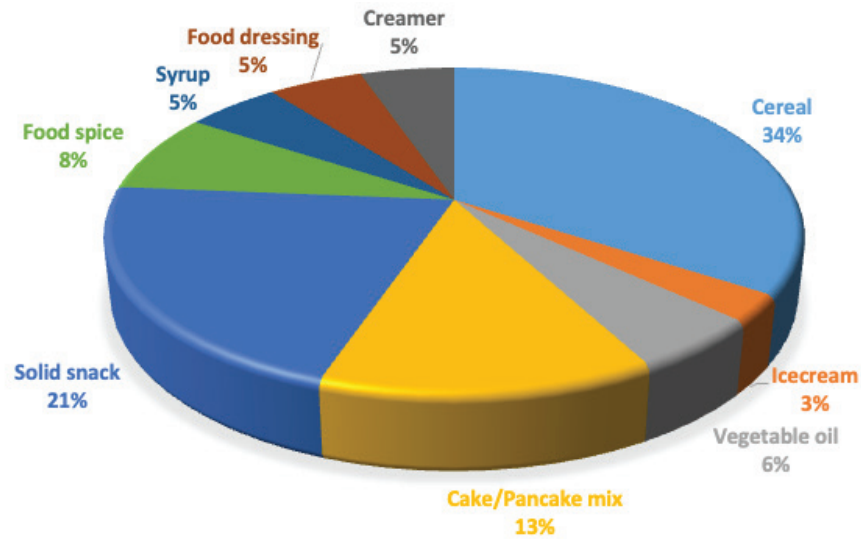
These products are seen to be spread across various supermarkets and stores in eight (8) out of the ten states that were surveyed. The products included vegetable oils, cereals (34%), ice cream, chocolates, food spices, mayonnaise, cake mix etc. and were mostly imports from USA, South Africa and Netherlands with 76% from the USA.

In 2019, forty-seven (47) products were found to be containing genetically modified ingredients in the 9 cities that were surveyed. A total of 15 new food products (different from the ones seen in 2018) of genetic modification were seen in the 2019 survey and they included varieties of vegetable oils, cereals, food seasoning/spices and mayonnaise. Genetically modified ingredients were mostly corn and soy.

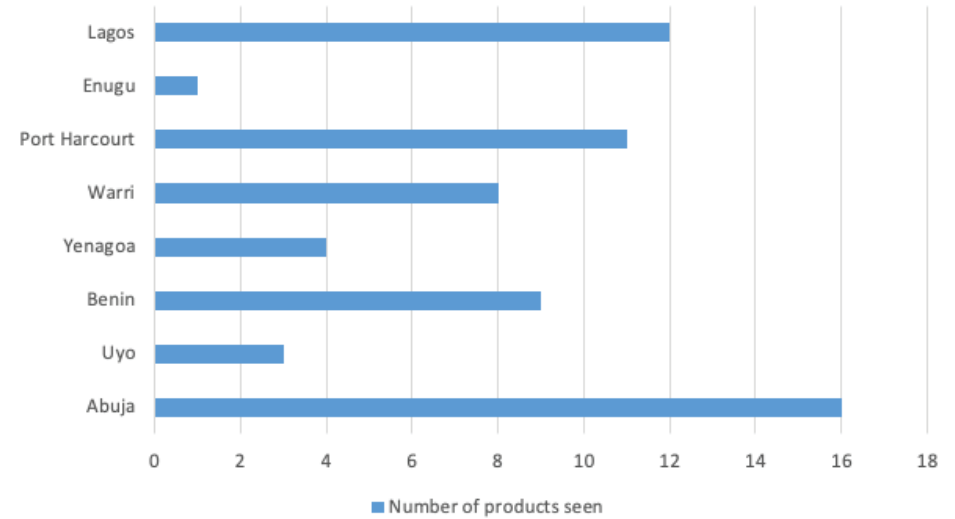
In 2018, products labeled as produced with genetic engineering or as containing genetically engineered ingredients were seen in seven (7) cities and were thirty-two (32) in number. They included: cereals, mayonnaise/salad cream, biscuits, chocolates, ice cream, noodles, cake/pancake mix, food spices,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

On glyphosate containing herbicides, 34 distinct brands were seen containing various concentrations of glyphosate in various stores in 7 cities that were surveyed specifically for herbicides.

## 4.1. Groups of GM Food Products Seen



## 4.2. Number of GM Food Products Seen Per City





### 4.3. Result Charts Per City

### 4.3.1. Lagos, Lagos State

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Foodtown Cornflakes	Cereal	USA		06-2024	Contains a bioengineered food ingredient
2.	Pringles (Cheddar Cheese)	Potato-based chips	USA		03-26-24	Contains a bioengineered food ingredient
3.	Millville Cornflakes	Cereal	USA		08-06- 2024	Contains a bioengineered food ingredient
4.	Pringles Original	Potato-based chips	USA		22-07-2024	Contains a bioengineered food ingredient
5.	Chocolate Chex	Cereal	USA		24-08-2024	Ingredients derived from a bioengineered source
6.	Rice Chex	Cereal	USA		12-08-2024	Ingredients derived from a bioengineered source
7.	Blueberry Chex	Cereal	USA		24-08-2024	Ingredients derived from a bioengineered source
8.	Honey Nut Cheerios	Cereal	USA		18-12-2023	Contains bioengineered food ingredients
9.	Lucky Charms	Cereal	USA		25-11-2023	Contains bioengineered food ingredients
10.	Bowl & Basket – Frosted Flakes	Cereal	USA	Shoprite Brand	16-01-2024	Contains bioengineered food ingredients
11.	Bowl & Basket – Honey Nut Toasted Oats	Cereal	USA	Shoprite Brand	02-01-2024	Contains bioengineered food ingredients
12.	Pringles sour cream and onion	Potato-based chips	USA		03-03-2024	Contains bioengineered food ingredients

## Some photos from the survey in Lagos

In Lagos, a total of 12 products containing GMOs were found in 5 out of 10 shops visited. Several of these products were stocked in multiple shops. Products found with GMOs are mostly cereals and chips. All products found were made in the USA and not distributed by any named Nigerian brand.

“I talked to a few friends who ate those cereals, and they did not notice this tiny labelling signifying they contain GMOs. It showed me that many Nigerians do not read the labels of the food they eat as thoroughly as they should.

Foods containing GMOs are more accessible than I thought. As a country, we need to pay attention to food imports from the USA. Cereals should not make up a normal, healthy breakfast. Aside from the fact that many cereals are made with bioengineered food ingredients, they are also high in sugar and devoid of essential nutrients the body needs.” – Arekpitan (Consultant, Lagos).



Figure 1a: Foodtown Cornflakes



Figure 2a: Pringles Cheddar Cheese



Figure 1b: Foodtown Cornflakes Label



Figure 2b: Pringles Cheddar Cheese Label



Figure 3a: bowl & basket Honey Nut Toasted Oats



Figure 4a: Rice Chex

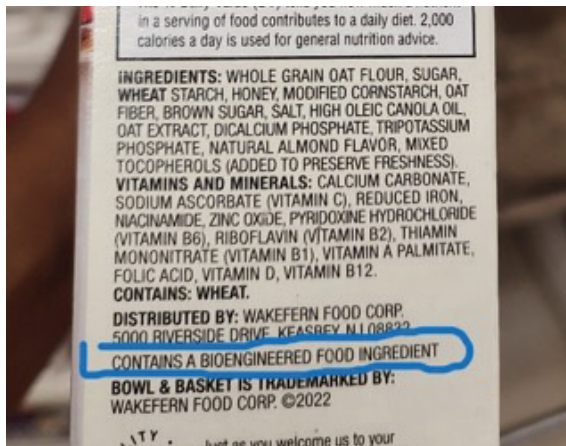


Figure 3b: bowl & basket Honey Nut Toasted Oats Label



Figure 4b: Rice Chex Label

## 4.3.2. Abuja, FCT

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Blue Bunny Ice Cream	Ice cream	USA		7/12/2024	Contains bioengineered food ingredients
2.	Red and White Plain Bread Crumbs	Bread	USA			Contains bioengineered food ingredients
3.	Hungry Jack	Pancake mix	USA			Contains a bioengineered food ingredient
4.	Cinnamon Toast Crunch	Cereal	USA			Contains bioengineered food ingredients
5.	Aromat Knorr	Food spice	South Africa			Maize Flour (Genetically modified)
6.	Tropical Sun Vegetable Oil	Vegetable oil	UK			Produced from genetically modified soya
7.	KTC Extended Life Vegetable Oil	Vegetable oil	Netherlands			Produced from genetically modified soya
8.	Honey Brunches Of Oats	Cereal	USA			Contains bioengineered food ingredients
9.	Betty Crocker Super Moist Cake Mix	Cake mix	USA			Contains bioengineered food ingredients
10.	Bisquick Pancake and Baking Mix	Pancake and baking mix	USA			Contains bioengineered food ingredients
11.	Millville Original Syrup	Food syrup	USA			Contains bioengineered food ingredients
12.	Kellogg's Frosted Flakes	Cereal	USA		04/12/2024	Contains a bioengineered food ingredient
13.	Honey Nuts Cheerios	Cereal	USA		31/1/2024	Contains bioengineered food ingredients
14.	Froot Loops	Cereal	USA		12/2/2024	Contains a bioengineered food ingredient
15.	Lucky Charms	Cereal	USA		13/1/2024	Contains bioengineered food ingredients
16.	Butter Milk Pancake Mix	Pan cake mix	USA		25/08/24	Contains a bioengineered food ingredient



## Some photos from the survey in Abuja

Abuja had the highest number of GMO products identified. 13 out of the 16 products seen were imports from the USA.

"I expected that the GMO products would have been phased out already due to their harmful effects. However, I was surprised that many superstores in the FCT still sell them in large numbers. It is my pleasure to be part of the research team that conducted the 2023 survey, especially in the Abuja zone. Having been involved in the previous exercise years ago was an advantage regarding the identification of products that contain the GMO elements". - Shehu (Lead consultant, Abuja, FCT).



Figure 5a: Knorr Aromat Seasoning



Figure 6a: Cinnamon Toast Crunch

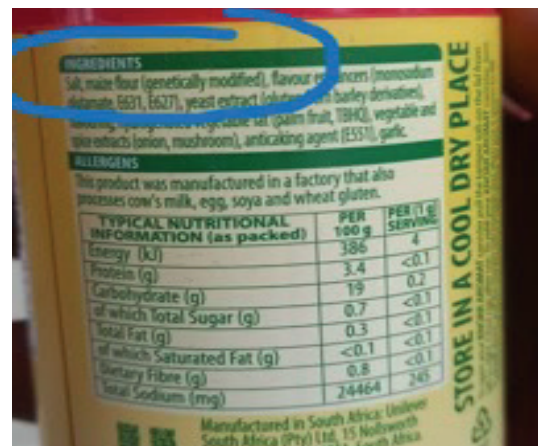


Figure 5b: Knorr Aromat Seasoning Label

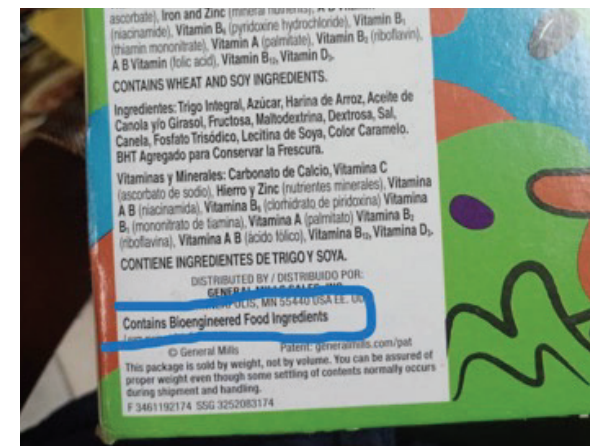


Figure 6b: Cinnamon Toast Crunch Label



Figure 7a: Plain Bread Crumbs



Figure 8a: Tropical Sun Vegetable Oil

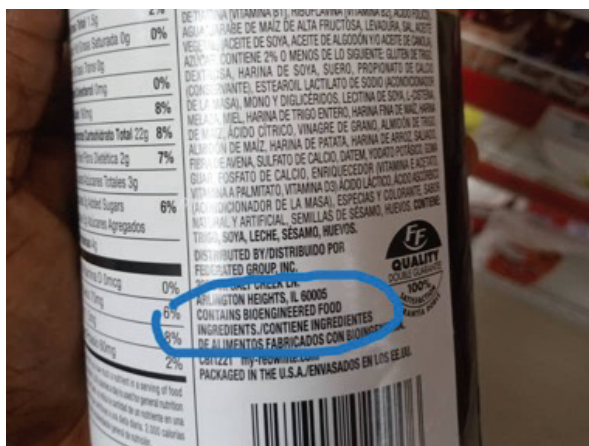


Figure 7b: Bread Crumbs Label

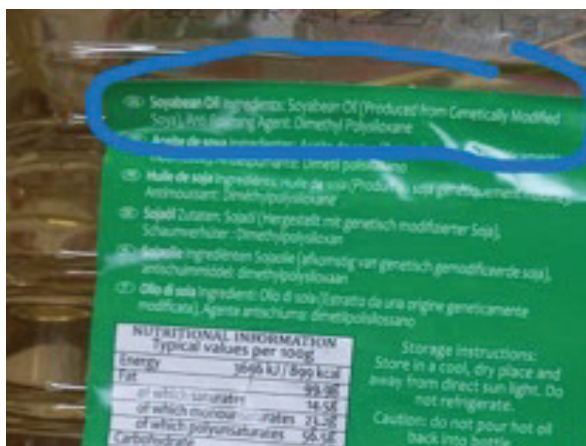


Figure 8b: Tropical Sun Vegetable Oil Label

### 4.3.3. Port Harcourt, Rivers State

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Blue Bunny ice cream	Ice cream	USA		22/09/2024	Contains bioengineered food ingredients
2.	Remia	Mayonnaise	Netherlands	N/A	N/A	Produced from genetically modified soy
3.	Super Moist Cake Mix	Cake Mix	General Mills, USA			Contains bioengineered food ingredients
4.	Nesquik	Strawberry Syrup	Canada	Nestle USA, INC.	09/2024	Ingredient derived from a bioengineered source
5.	Millville Cornflakes	Cereal	USA	-		Contains a bioengineered food ingredient
6.	Foodtown Cornflakes	Cereal	USA	-	06/2024	Contains a bioengineered food ingredient
7.	Nature Valley Granola bar	Solid snack	USA	N/A	24/01/24	Contains Bioengineered Food Ingredients
8.	Honey Bunches of Oats	Cereal	USA	N/A	01/2025	Contains Bioengineered Food Ingredients
9.	Extended Life Vegetable Oil	Vegetable Oil	Netherlands			Produced from genetically modified soya
10.	Cinnamon toast crunch	Cereal	USA			Bioengineered food
11.	Cheerios Oat Crunch	Cereal	USA			

## Some photos from the survey in Port Harcourt

“In Port Harcourt City, a total of 11 different GMO products were found in 9 out of the 10 super shops surveyed. Most of these products were distributed across the 9 shops. Unfortunately, many individuals spotted joyfully shopping in these malls, including some buying for their children, are unaware that some of the items they purchase contain GMOs. What’s more concerning is that a large portion of these individuals have never heard of GMOs or their implications.” - Joyce (Consultant, Port Harcourt)



Figure 9a: Blue Bunny Icecream



Figure 10a: Nesquik

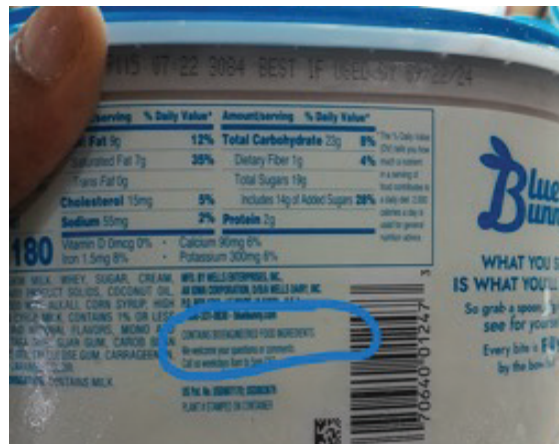


Figure 9b: Blue Bunny Icecream Label



Figure 10b: Nesquik Label

### 4.3.4. Warri, Delta State

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Nesquik	Chocolate Syrup	Canada	Nestle USA, INC.	09/2024	Contains a bioengineered food ingredient.
2.	Hungry Jack	Pancake & Waffle Mix	USA	Hometown Food Company	01/032024	Contains a bioengineered food ingredient.
3.	Progresso Bread Crumbs	Bread Crumbs	USA	General Mills Sales, Inc.	25/12/2023	Contains bioengineered food ingredients
4.	Red & White Seasoned Bread Crumbs	Bread Crumbs	USA	Federated Group, Inc.	June 13 2024	Contains bioengineered food
5.	Coffee Mate	Non-Dairy Coffee Creamer	USA	Nestle	Oct 21 2024	Ingredients derived from a bioengineered source
6.	Ruf	Muffins	GERMANY		Nov 2024	May contain bioengineered food ingredients
7.	French Vanilla	Non-Dairy Creamer	USA	Nestle	Jan. 15 2025	Ingredients derived from a bioengineered source
8.	Golden Butter	Cake Mix	USA	Pillsbury	July 13 2024	Contains a bioengineered food ingredient

## Some photos from the survey in Warri

"I found out that Most GMO foods are found in supermarkets and marts and not common in the open market (local market). Also, most people are not aware of GMO product and the impact in consumption of such products. I actually started looking at food products thoroughly before buying. I also inform others on the health impact of food products with inscription of GMOs, stating an example of what they might likely see such as:

\*Contains a bioengineered ingredients

\*Contains genetically engineered soy, whey, pea, maize e.t.c

\*Made from genetically engineered ingredients.

Recommendations: more awareness/ sensitization about GMO products and the effect of consumption should be carried out regularly." - Jennifer (Consultant, Warri, Delta State)



Figure 11a: Bread Crumbs



Figure 12a: Coffee Mate

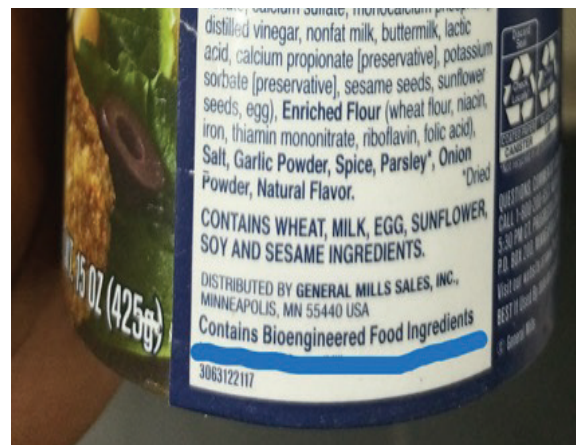


Figure 11b: Bread Crumbs Label



Figure 12b: Coffee Mate Label

### 4.3.5. Benin City, Edo State

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Lucky Charms	Cereal	USA	N/A	06/2024	Contains Bioengineered Food Ingredients
2.	Honey Bunches of Oats	Cereal	USA	N/A	01/2025	Contains Bioengineered Food Ingredients
3.	Hidden Valley Dressing	Liquid food dressing	USA	N/A	05/2024	Contains Bioengineered Food Ingredients
4.	Millville Original Syrup	Liquid Syrup	USA	N/A	N/A	Contains Bioengineered Food Ingredients
5.	Hungry Jack Pancake Mix	Powder Waffle Mix	USA	N/A	10/2024	Contains a Bioengineered Food Ingredient
6.	KTC Vegetable Oil	Vegetable oil	Netherlands	N/A	02/2024	Contains genetically modified soy
7.	Nature Valley Granola bars	Solid snack	USA	N/A	24/01/24	Contains Bioengineered Food Ingredients
8.	Honey Nut Cheerios	Cereal	USA	N/A	08/2024	Contains Bioengineered Food Ingredients
9.	Remia Mayonnaise	Food dressing	Netherlands	N/A	N/A	Produced from genetically modified soy

## Some photos from the survey in Benin City

“For the market survey in Benin, one of the major things I deduced from my engagements with some of the retailers was their ignorance of the real existence of GMOs. Some assumed that such products are not reachable by the average Nigerian. However, with samples shared with them during conversational engagements, some of them understood certain dangers of consuming modified products”.\_ Esele (Consultant, Benin City)



Figure 13a: Honey Bunches of Oats



Figure 14a: Hidden Valley



Figure 13b: Honey Bunches of Oats Label



Figure 14b: Hidden Valley Label



### 4.3.6. Uyo, Akwa Ibom State

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Knorr Chilli Beef & Vegetable Soup	Food Spice	South Africa	Unilever	04 March, 2024	Contains Genetically Modified Products
2.	Nature Valley Crunchy	Cereal - Oats 'N honey granola bars	USA	General Mills Sales, INC.	02 March 2024	Contains Bioengineered food ingredients
3.	Knorr Aromatic Original Seasoning	Food Spice	South Africa	Unilever	11 Aug. 2024	Maize flour (Genetically Modified)

#### Some photos from Uyo

“Most supermarket / shop owners and/or management are unaware of the proliferation of GMO products in their marketplace, while most of the consumers do not know about GMOs - suggesting poor awareness of the population.” – Ekanem (Consultant, Uyo, Akwa Ibom State)



Figure 15a: Nature Valley



15b: Nature Valley Label

### 4.3.7. Enugu, Enugu State

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Remia	Mayonnaise	Netherlands	N/A	N/A	Produced from genetically modified soy

#### Some photos from Enugu

“Genetically modified products were hardly on display on the shelves of most of the shopping malls visited. This suggests that previous campaigns against importation and sale of GMO products may have yielded positive results or that malls no longer display them on open shelves.” \_Ikenna (Consultant, Enugu, Enugu State)



Figure 16a: Remia Mayonnaise



Figure 16b: Remia Mayonnaise Label

### 4.3.7. Yenagoa, Bayelsa State

S/N	Product Name	Kind of Product	Imported from which country	Distributed in Nigeria by	Expiry Date	Label on Product
1.	Extended Life Oil	Vegetable Oil	United Kingdom			Produced From Genetically Modified Soya
2.	Tropical sun	Vegetable oil	United Kingdom		03-24	Produced from genetically modified soya
3.	Remia Mayonnaise	Mayonnaise	Netherlands			Produced from genetically modified soy
4.	Aromat	Seasoning	South Africa		21-05-2024	Maize Flour (Genetically Modified)

### Some photos from the survey in Yenagoa

“The write-up on the content aspect of the products should be as legible as the name of the product with the English language part distinctively separated from others especially for an English-speaking country like Nigeria. The exercise exposed how easy it is for any harmful product to enter into the Nigerian market unchecked.” \_ Akpotu (Consultant, Yenagoa, Bayelsa State)



Figure 17a: Remia Mayonnaise



Figure 17b: Remia Mayonnaise Label

# 5.0. GLYPHOSATE-CONTAINING HERBICIDES IN NIGERIA <sup>vii</sup>

**Glyphosate** is a broad-spectrum systemic herbicide and crop desiccant. It is an organophosphorus compound, specifically a phosphonate, which acts by inhibiting the plant enzyme. It is used to kill weeds, especially annual broadleaf weeds and grasses that compete with crops. Monsanto chemist John E. Franz discovered its herbicidal effectiveness in 1970. Monsanto brought it to market for agricultural use in 1974 under the trade name Roundup. Glyphosate is absorbed through foliage, and minimally through roots, and from there translocated to growing points. It is present in over 66 products in Nigeria.

Glyphosate is classified as **highly hazardous** by the Pesticide Action Network (PAN).

## International Regulatory Status of Glyphosate Active Ingredient

Glyphosate is banned in Mexico, Sri Lanka, Vietnam, Canada, and India (since 2018). It was banned in France in 2017. The Netherlands banned all non-commercial use of glyphosate. Qatar and five other countries in the Gulf Cooperation Council (GCC) have also banned glyphosate. It is highly restricted in USA cities i.e. Alaska, Arizona, California, Colorado, Connecticut, Florida, Michigan, Nevada, etc. According to the European Commission, glyphosate was approved for use in the European Union until Dec. 15, 2022. Austria became the first EU country to ban glyphosate in July 2019. German cabinet approves legislation to ban glyphosate from 2024. It is neither banned nor highly restricted in Nigeria.

However, reports from NAFDAC indicate that agrochemical companies had been given a grace period until December 2019 to withdraw all glyphosate formulations with tallow-amine from the Nigerian market.

## Health Impact, Environmental Toxicity and Environmental Behaviours Concerns

Glyphosate is being banned because of its potential link to cancer in humans. According to the Global Glyphosate Study (GGS), glyphosate could be linked to certain types of cancer, particularly non-Hodgkin lymphoma. The GGS is the most comprehensive toxicological study ever conducted on glyphosate and glyphosate-based herbicides. It provides vital data for government regulators, policy makers and the general public. It examines the impacts of glyphosate and glyphosate-based herbicides on carcinogenicity, neurotoxicity, multi-generational effects, organ toxicity, endocrine disruption and prenatal developmental toxicity. Multiple peer-reviewed papers from the study are set to be published from early 2024 onwards.

A new study by Robin Mesnage et al (2022) published ground-breaking data on how low levels of glyphosate herbicides - that have previously been assumed to be safe - caused cases of leukaemia in young rats, following early life exposures. In this long-term study, glyphosate alone and two commercial formulations, Roundup BioFlow (MON 52276) used in the EU and Ranger Pro (EPA 524-517) used in the U.S., were administered to rats via drinking water beginning in prenatal life, at doses of 0.5, 5, and 50 mg/kg body weight/day. These doses are currently considered safe by regulatory agencies and correspond to the EU

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<sup>vii</sup> <https://homef.org/wp-content/uploads/2024/03/DOSSIER.pdf>

Acceptable Daily Intake (ADI) and the EU's No Observed Adverse Effect Level (NOAEL) for glyphosate. These findings were later confirmed in a human population of mothers and new-borns exposed to glyphosate during pregnancy (Corina Lesseur et al 2022).

The GGS previously published a pilot study, which showed endocrine and reproductive toxicity in rats at glyphosate doses currently considered safe by regulatory agencies in the U.S. (1.75 mg/kg bw/day). Symptoms of exposure to Glyphosate include irritation of the skin, gastrointestinal and respiratory tract, convulsions, and coma. It may also cause enhanced breathing. People who breathed in spray mist from products containing glyphosate felt irritation in their nose and throat. Swallowing products with glyphosate can cause increased saliva, burns in the mouth and throat, nausea, vomiting, and diarrhoea. Fatalities have been reported in cases of intentional ingestion. Glyphosate is suspected of causing genetic damage. Glyphosate causes serious eye damage.

NAFDAC is advised to impose restrictions on the trade and use of glyphosate and initiate a phase-out plan.



## 5.1. List of Some Glyphosate Based Herbicides Seen in Nigerian Markets

### Benin City

S/N	Name of pesticide product	Made in which country	Distributed in Nigeria by:	Expiry Date	% of Glyphosate Contained
1.	Stand Safe Herbicide	China	Standard Chemsience Co. Ltd	13/04/2026	360g/L
2.	Uproot	China	Saro Agrosiences Ltd	4/24/2026	360g/l
3.	Force Up	China	Jubaili Agrotec	13/04/2026	75.7%
4.	Glyspring	China	Springfield Agro Limited	20/06/2023	41%
5.	Kill Down Action Killer	N/A	N/A	10/08/2025	480g/l
6.	Tackle	Nigeria	The Candel Company Ltd	N/A	360g/L
7.	Sunphosate	China	Wynca Sunshine Agric Products	3/3/2025	360g/l
8.	Relisate	Nigeria	Reliable Agro Allied Limited	N/A	360g/l
9.	Rakeout	Nigeria	Reliable Agro Allied Limited	N/A	360g/l

## Makurdi

S/N	Name of pesticide product	Made in which country	Distributed in Nigeria by:	Expiry Date	% of Glyphosate Contained
1.	Mop-Mup	China	Etong Agrotech Nigeria Limited	2024-01-02	41%
2.	Glyhotex	China	Amarshal Com, Agro & Tech Ltd	06-21-24	41%
3.	Relisate	China	Reliable Agro Allied Limited	04-25-2026	360g/L
4.	Glyspring	China	Spring Field Agro Limited	19-02-2024	41%
5.	Glyval	Nigeria	Valency Agro Nigeria Limited	21-10-2024	360g/L
6.	Force Up	China	Jubaili Agro Tech	May 20, 2026	360g/L
7.	Bush Klear	China	Lionseal Industries Ltd	2025-12-09	41%
8.	Phronesate	China	Mubti Nigeria Limited	05,2026	360g/L
9.	Glymor	China	Wacot Limited	10-01-2024	360g/L
10.	Crossfire	Nigeria	The Can Del Company Limited	13-07-2026	360g/L
11.	Standstate	China	Standard Chemsience Co.Ltd	13-04-2026	360g/L
12.	Chase	China	Valency Agro Nigeria Ltd	14-04-2026	360g/L
13.	Champim	China	Chremon Industries Limited	24-04-2026	41%
14.	Phyto General	Nigeria	The Candel Company Limited	02-05-2026	360g/L
15.	Vinash	China	Wacot Limited	25-12-2024	41%
16.	Tackle	Nigeria	The Candel Company Limited	27-05-2026	360g/L
17.	Go Bara	China	Saro Agro Science	09-05-2026	360g/L

18.	Sunphosate	China	Wynca Sunshine Agric Prosuaction Campany (Nig) Limited	04-11-2025	360g/L
19.	Bush Klear	China	Lionseal Industries Ltd	2025-12-09	41%
20.	Royasate	China	Royal Tee Square Trade & Investment	07-01-2026	41%SI



## Yenagoa

S/N	Name of pesticide product	Made in which country	Distributed in Nigeria by:	Expiry Date	% of Glyphosate Contained
1.	Phyto general			06/04/2024	360g
2.	Tackle			20/04/20205/05/20266	360g
3.	Sunphosate	China		06/09/2026	360sl
4.	Force up	China			360g
5.	Uproot	China	Saroagro science limited		360 litres
6.	Relisate		Reliable agro allied limited		360g
7.	Springsate	China	Springfield agro limited	12/18/2023	41%sl
8.	Nwurawura (wynca)				360g
9.	Delsate	Nigeria	The Candel company limited		360g
10.	Glyphotex	China	Amarshal con agro and tech limited		41%sl

## Enugu

S/N	Name of pesticide product	Made in which country	Distributed in Nigeria by:	Expiry Date	% of Glyphosate Contained
1.	Force up	Nigeria	Jubaili Agrotec Limited	20/04/2025	360g/L
2.	Uproot	Nigeria	Saro AgroSciences Ltd	12/07/2024	360g/L
3.	Chase	Nigeria	Choice Agrochemical Ltd	January, 2025	360g/L
4.	Rakeout	Nigeria	Harvestfield Agrohao Industries Limited	17/02/2024	360g/L
5.	Relisate	Nigeria	Reliable Agro Allied Ltd	04/05/2025	360g/L
6.	Skyphosate	Nigeria	IK Agrochemical Limited	19/05/2025	360g/L
7.	Sunate	Nigeria	Choice Agrochemical Ltd	03/12/2023	360g/L

## Uyo

S/N	Name of pesticide product	Made in which country	Distributed in Nigeria by:	Expiry Date	% of Glyphosate Contained
1.	Glyphotex	China	Marshal Com. Agro & Tec Ltd.	March 10, 2022	41%
2.	Force Up	China	Jubaili Agro Tec (Jat)		360g Glyphosate/L 480g/L Glyphosate Isopropyl
3.	Vinash	China	Wacot Limited	Dec. 25, 2024	41%
4.	Nwura Wura	Ghana	Nynca Sunshine		360gglyphosate/L Isopropylamine Salt
5.	Clearweed	UK	Harvested Industries LTD.		360g/L Glyphosate
6.	Sarosate	China	Saro Agrosience LTD	Dec. 19, 2024	
7.	Relisate	Nigeria	Reliable Agro Allied Limited	Dec. 20, 2024	360g/L Glyphosate
8.	Uproot	China	Saro Agrosiences Ltd	April 24, 2026	360g/L Glyphosate
9.	Tied Up	China	Osiagro & Ind. Chem. Company Ltd.	Jan. 2021	Glyphosate 480g/L SI

## Warri

S/N	Name of pesticide product	Made in which country	Distributed in Nigeria by:	Expiry Date	% of Glyphosate Contained
1.	Tackle	Nigeria	Candel Company Limited	Nov. 10 2025	360 G/L
2.	Force Up	China	Jubali Agrotec	June 10 2026	360 G/L
3.	Sunphosate	China	Wynca Sunshine Agric Products Company Nigeria Limited	April 02 2026	360 SI
4.	Uproot	China	Saro Agrosience Ltd	April 24 2026	360 G/L
5.	Vinash	China	Wacot Limited	Dec. 25 2024	41% W/W
6.	Relisate		Reliable Agro Allied Limited		48%
7.	Delsate	Nigeria	Candel Company Limited		360 G/L
8.	Phyto General	Nigeria	Candel Company Ltd	May 30 2026	360 G/L
9.	Skyphosate	Nigeria	Ik Agrochemical Limited	June 07 2025	360 G/L

## 6.0. CONCLUSION

Based on the results of this survey, it is evident that the number of GMOs in processed food products continue to increase in our markets. This survey provides valuable insights into public perceptions towards GMOs and attitudes toward labelling in general. Through detailed analysis of the data collected, the findings below are highlighted:

First, the increase in the number of products containing bioengineered/genetically modified ingredients is notable, with a 60% rise in new GMO products compared to previous surveys. This clearly shows an increase of GMOs within our food supply chain and an increase in consumption of these products.

Second, the survey highlights the importance of increased awareness on GMOs. Many consumers who the consultants interacted with admitted to having limited knowledge of GMOs, much less their implications. Addressing this knowledge gap through accessible and accurate information is crucial in ensuring informed decision-making among consumers and policymakers.

Third, the evolution of labelling language is noteworthy, with a shift towards labelling products as containing bio-engineered ingredients rather than the previously common terminology of “produced/partially produced with genetic engineering.” This change may be because of regulatory adjustments in the countries of origin of these products. This begs the question: who is regulating these products in the Nigerian market?

Moreover, the distribution of GMO-containing products across various supermarkets and stores in eight out of the ten surveyed states underscores the widespread availability and accessibility of these items. The diverse range of products, including vegetable

oils, cereals, ice cream, chocolates, and food spices, indicates the integration of GM ingredients into various food categories, predominantly sourced from countries such as the USA, South Africa, and the Netherlands.

Comparing findings from previous surveys in 2018 and 2019, a consistent trend is seen regarding the types of products containing genetically modified ingredients, primarily revolving around corn and soy derivatives. This longitudinal perspective highlights the persistence of certain sources of these products and product categories over time.

Moving forward, it is important to have more extensive stakeholder public/open dialogue about GMOs to address concerns, provide reliable information, and incorporate public feedback into decision-making processes regarding applications for GMOs. This will ensure a more effective approach to the regulation of GMOs in Nigeria.

This survey represents just one step in showcasing the distribution of processed foods containing GMOs across the country and an attempt to sample opinion of consumers. It is imperative for Nigerian research institutions to carry out extensive/long-term testing including feeding tests to prove the safety of the processed products containing GM ingredients as well as food crops approved for use in the country.

Lastly, our survey also examined the presence of glyphosate-containing herbicides, revealing a multitude of brands with varying glyphosate concentrations across surveyed cities. This finding underscores the broader impact of GMOs on agricultural practices and raises awareness about associated herbicide usage.

We extend our gratitude to all participants in this survey for their valuable contributions.

# ABOUT HOMEF

HOMEF is an ecological think tank and advocacy organization promoting environmental/climate justice as well as food sovereignty in Nigeria and Africa. Our work is rooted in solidarity and in the building and protection of human and collective dignity.

HOMEF's vision is for an ecologically just world where all beings live in harmony with Mother Earth and her driving mission is working to support a wholesome ecological and socially cohesive/inclusive community where people live in solidarity and dignity.

HOMEF's work tackles problems created by the agricultural model that is colonial and sees food as a commodity thereby generating hunger and encouraging biodiversity erosion through approaches including using genetic engineering in agriculture and harmful agricultural chemicals such as the HHPs.

HOMEF also focuses on tackling problems relating to harmful extractives and the exploitation of nature and people. HOMEF has created a dynamic knowledge space through her Ikike Programme to drive the change she seeks. This space fosters the development and sharing of knowledge as well as interrogation of concepts, policies, and actions on various issues, ranging from environmental/climate justice, agriculture, re-source democracy and overall socio-ecological transformation.

Our five key areas of focus are **Fossil Politics, Hunger Politics, Ikike, Community** and **Culture & Communications**.

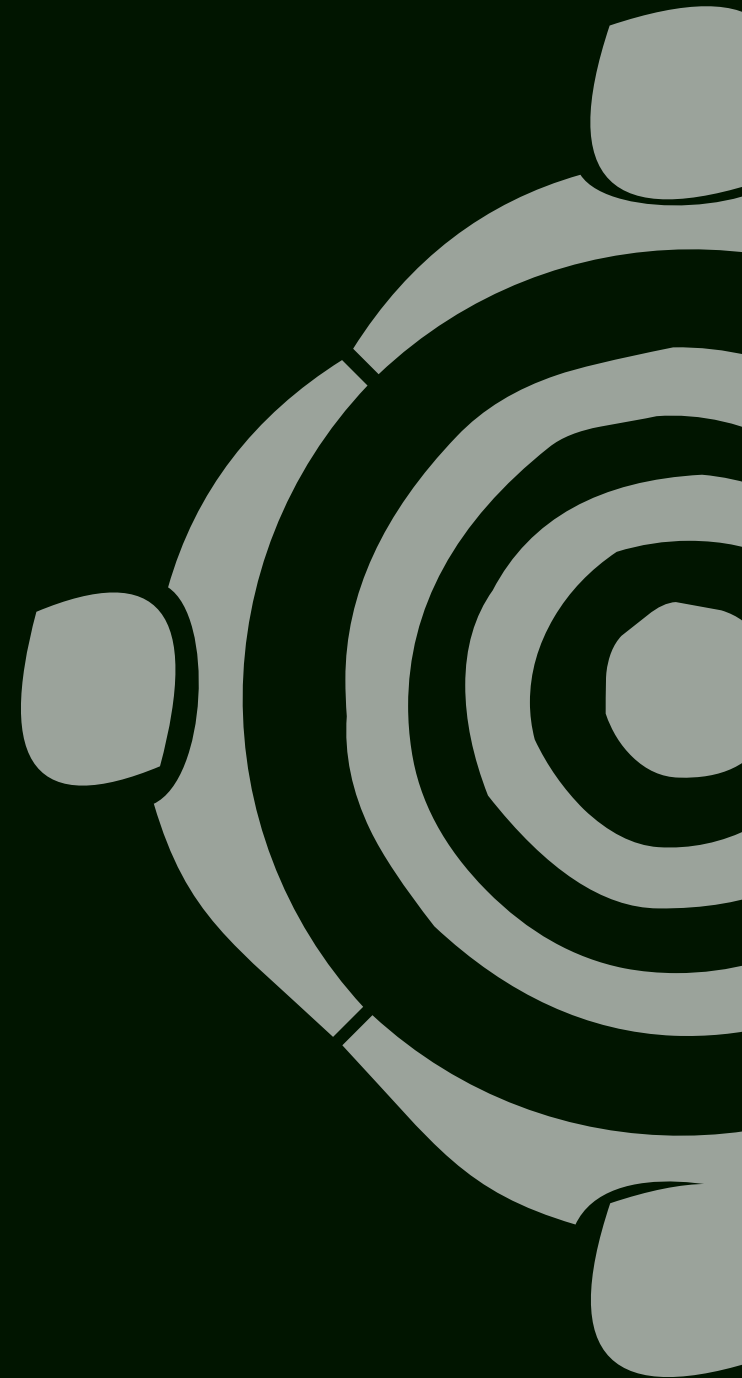
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# HOMEF

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