

# PEANUT

# POST

MAY 2024

81

VOLUME

## THE STRUCTURE

OF THE PEANUT INDUSTRY: AN X-RAY VIEW



Global Market P4



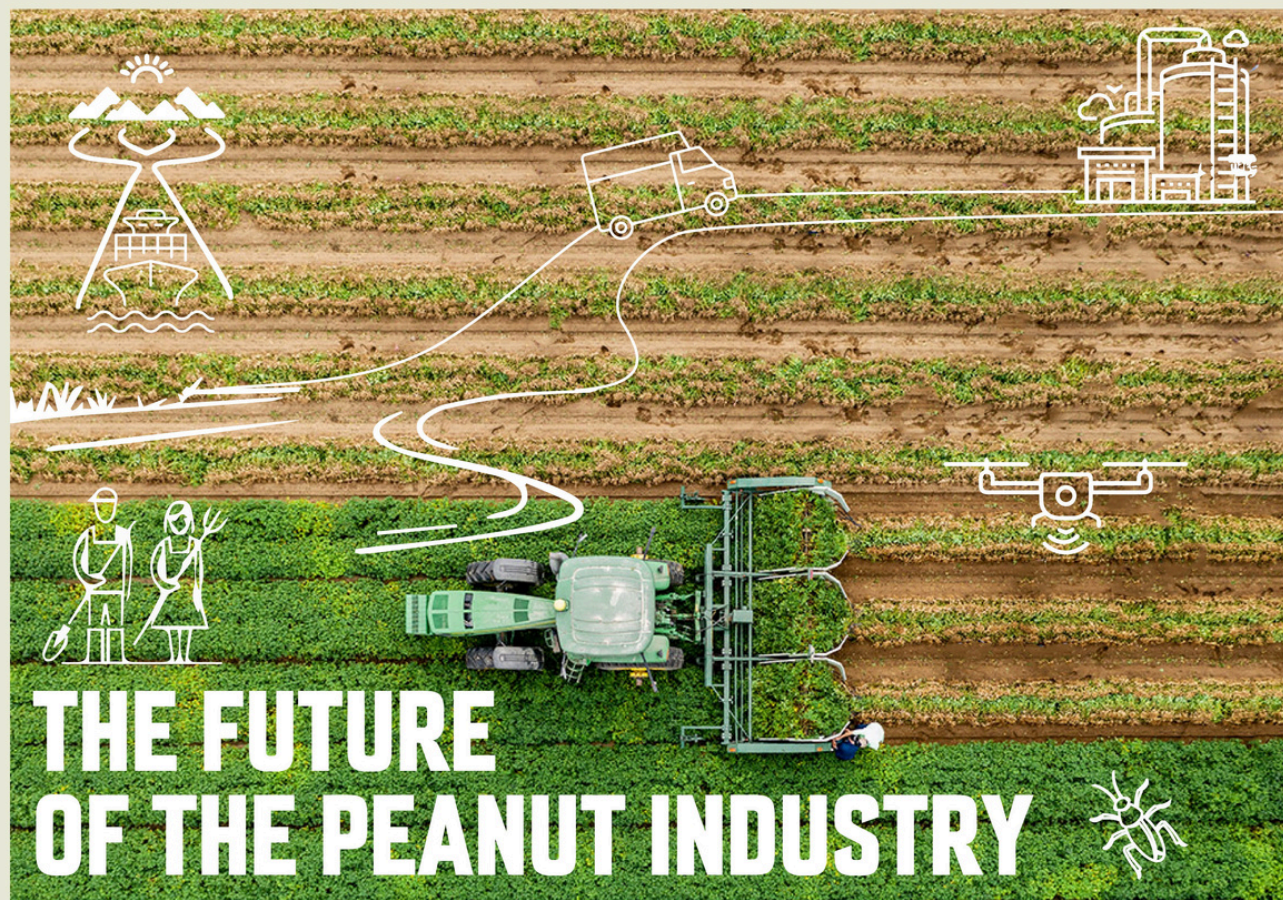
Sustainability P8



Peanut Science P12

Market Wizard • Current Crops • Shelled Facts • Peanut Voice • Bird Feed





# MARKET WIZARD

**38% of the global peanut production takes place in underdeveloped regions, 53% in developing and only 9% in developed regions. How can the developed regions maintain a global export market share of 45%?**

## Trade Statistics

Developed regions has over **45%** of international trade of peanut and its derivatives in value terms. The large % mirrors the value stream integration and development of the agriculture and industrialisation in these regions. While a reasonable export share in the global trade is considered as a milestone in development, several large volume producers such as Nigeria still export only less than 1% of their total production. Even in developing economies much as India, the producing regions are in underdeveloped or developing phase, i.e., the peanut butter market in India consumes less than **1.2%**

of the total production, whereas the traditional edible oil market consumes **12%**, similarly in Indonesia, one of the major producer and importers of peanuts consumes less than **0.50%** in peanut oil and **3%** in peanut butter consumption. Comparatively, developed regions on average produces **213%** more peanuts/HA than the underdeveloped regions.

## Characterising the Regions

GDP of Brazil is **2.27 T USD**, while GDP of China is **18.5 T USD** and India **4.1 T USD**, does this means that the region's development has nothing to do with the country's economic conditions? Average land

The state of the economy plays a significant role in industrialisation and policy governance to develop the peanut industry. Dramatic vicious cycle effects are seen in the per capita income of farmers and export shares. Capital investments and interventions in LDCs can turn them into developed industries.

## TOTAL GDP OF EACH CATEGORY ( Trillion USD )



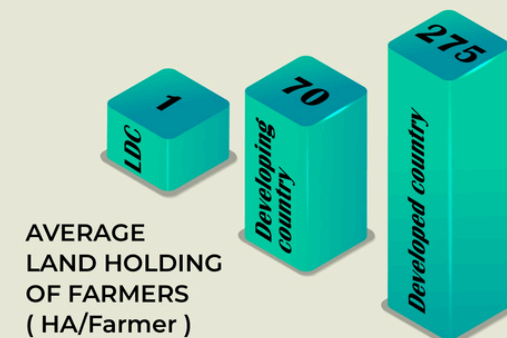
holding of farmers show a huge variance of **275 HA/farmer** in developed regions and **1 HA/farmer** in underdeveloped regions. As seen in a comparative table, key characters that differentiate these Three category of producers are:

1. Industrialisation of agriculture
2. Ownership structure of the enterprise
3. Government policies
4. State of Midstream segment
5. Level of integration

## The Future

The future of the peanut market is becoming flat and integrated

that transcribes the features of some of the mature markets such as the United States and evolved commodity markets like Soyabean and Corn. With technology taking over data crunching, information asymmetry results in a connected market where **ONLY** value-adders have role to play. Industrialisation of the value streams means every role player in the value stream will have to bring competitive edge to add value.



AVERAGE LAND HOLDING OF FARMERS ( HA/Farmer )

Attributes	Developed	Developing	Underdeveloped
Industrialisation of Agriculture	High-tech, process/science driven	Low-tech, adapted-tech and traditional	No-Tech, traditional or no practices/novice
Ownership structure	Corporate, Cooperative & Family owned	Family owned, very few corporates	Family or individual owned
Government policies	Strong policies across all three streams of the industry from farming processing consumer segment	Strong policies to support farming, developing policies on midstream, underdeveloped policies on consumer segment	Family or individual owned
State of Midstream segment	Modern-tech and large volume per processor	Dependent on tech and traditional practices with low volumes	Cheap-tech, low volumes
Level of Integration	Mostly integrated	Integration has begun	Far behind integration

**Countries are categorized based on the development of the peanut industry.**

## DEVELOPED

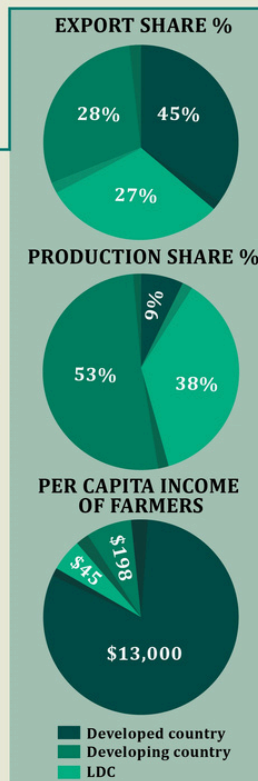
- . Argentina
- . Brazil
- . Mexico
- . Nicaragua
- . USA

## DEVELOPING

- . China
- . India
- . South Africa

## UNDER DEVELOPED

- . Rest of Africa
- . Indonesia
- . Myanmar
- . Pakistan
- . Thailand
- . Vietnam



## Northland peanut trial looking 'really promising'

Northland's peanut trial shows promising results as peanuts thrive in the region's conditions. Project manager Greg Hall aims to establish a new industry, with trials spanning six sites across Northland. Varieties like High Oleic peanuts are being tested for commercial viability, especially for peanut butter production. In Pouto, where around 222,000 plants per hectare are thriving, irrigated versus non-irrigated plots are compared for feasibility. Harvest is expected by late March or early April, with each plant yielding 30-40 peanuts. Jeanette Johnston contributes expertise to the project, emphasizing peanuts' legume nature.

# EDITOR'S PICK





# Global Market

## ARGENTINA



Argentine crop harvesting plays a crucial role in revitalizing moisture-deprived fields post-rain, highlighting its significance in agricultural resilience. Forecasts projecting a notable 33.41% export surge starkly contrast with the preceding year's 30.7% decline, instilling a sense of optimism within the market. Stable prices persist, sustained by consistent demand and the potential influence of Brazilian crop challenges, which could further stimulate export activities. Market stability awaits US 2024 crop clarity, paving way for price adjustments reflecting supply dynamics and global demand shifts.

## USA

The US 2023 crop market remains steady with limited interest domestically and internationally, particularly from Mexico and Europe. Prices hold firm due to low projected carryover, estimated at 800,000 fst. Meanwhile, the 2024 crop market sees some

activity, but buyers anticipate higher plantings despite USDA numbers, influenced by low corn and declining cotton prices. La Nina poses weather risks, potentially affecting yields. US may export more from 2024 crop due to Brazil's issues.

## PEANUT SPOTLIGHT

### BRAZIL

Harvest progress remains steady, with around 70% of areas harvested, but quality concerns persist, including high aflatoxin levels reported by shellers. Yield variations across regions paint a mixed picture; while Mogiana and Alta Paulista mention yields of 3.8 to 4 tons per hectare, Middle-Tiete, particularly Borborema, grapples with lower productivity. Opinions on overall production levels range from maintaining last year's output to slight decreases, though some farmers warn of a more substantial decline. Growers continue to seek high prices

for their in shells, about US\$ 0.85 and 0.9 per KG, despite challenges from competitive prices in international markets. Reduced Brazilian competitiveness in the EU market, along with quality issues and price drops, is expected to shrink the Brazilian share in EU imports for this crop. Additionally, the oil market situation remains unchanged, with low demand and prices constraining export potential. March figures show the lowest point of exports for the 22/23 crop, with 13k tons

of peanuts and 3k tons of peanut oil exported. These challenges underscore the complexities facing the



peanut industry this season, requiring careful navigation by stakeholders.

## AFRICA

**Tanzania** The arrival of the new crop of peanuts from Tanzania has begun, with prices currently ranging from \$950 to \$1000. It is anticipated that there will be a downward trend in prices in the upcoming period.

**Mozambique** The harvest started slow due to oversupply from 2023. Despite good quality, pricing similar to India's may deter Indonesian buyers, crucial for Mozambique. New crop prices range from 1100-1175, with few May shipments expected. Most produce is anticipated in June, facing tough competition from India's attractively priced summer crop.

**Sudan** Offerings range from \$1100 to \$1150, with China showing limited interest due to slow demand. Indonesia closes a few deals but with minimal volume, impacted by subdued post-Ramadan purchasing power. Sudan offers crushing-quality goods at \$900-\$1000/ton.

**Senegal** The government ends quota April 30th, shifting focus to local supplies. Plans agricultural reforms to boost development. The snack sector reacts to 560 CFA/Kg base price. Exports remain sluggish.

## INDIA



Southern new crop harvest proceeds slowly, with one more month of steady supplies before dwindling. Despite a robust 2024 yield, profits suffer due to weak pricing and demand in export and local markets. Gujarat's summer crop arrives alongside Maharashtra's, both showing promise. Surplus stock from Winter 2023 aids upcoming sowing, boosting prices mildly. Tj 8090 trades between \$1150 to \$1200 to Indonesia, while demand remains sluggish in Vietnam, China, Malaysia, and Thailand for Indian peanuts.

## CHINA



The spot price of peanuts remains relatively stable, with demand-side participants adopting a cautious approach, resulting in limited overall transaction volume. Farmers are holding back goods due to low volumes, with some entering busy farming periods. Middlemen are also cautious in receiving goods, reflecting a low operating rate. Terminal demand shows no significant signs of improvement, exacerbating the production-sales imbalance. Downstream merchants are imposing high prices, but their capacity to absorb goods is limited. Some traders are gradually replenishing stocks in small amounts, while certain oil plants are experiencing increased

arrivals, leading to slow unloading. Consequently, they have subsequently lowered purchase prices, although the market impact is currently limited. 410future now 9056, steady since last week drop, oil 2% FFA traded at 1775\$ to 1800\$ levels from India and Brazil. Sudan and Senegal inflows are tepid, local pricing around 8800-9000. The next crop planting intentions are strong for peanuts amid poor prospects for other competing crops. Overall, a subdued market scenarios mirroring the state of the economic conditions in China, with stakeholders monitoring developments closely.



# Current Crops



## PEANUT VOICE

“As the CEO of GLOBAL TRADING AGROTECH SÉNÉGAL, boasting 20+ years of experience, I bring expertise in agricultural trade.”

Mr. Ibrahima Ba  
CEO

Can you describe how the peanut products will evolve in the next 30 years?

Senegal, with the arrival of the new government prioritizing agricultural growth, there's optimism for the groundnut sector. Focusing on credible Cooperative Societies is key to enhancing production. Renewing seed stocks is crucial for boosting output. Additionally, establishing processing industries is vital for the sector's development in the next 30 years, ensuring sustainability and economic prosperity for the nation.

### From Waste to Value: The Role of Peanut Shells in Mushroom Cultivation

Peanut shells are used in mushroom production, especially oyster mushrooms, due to their sustainability, affordability, and beneficial properties. As a byproduct of the peanut industry, they provide a cost-effective and eco-friendly alternative to other substrates. Peanut shells possess a porous structure which allows for excellent aeration and moisture retention, crucial for fostering the growth of mycelium, the vegetative component of fungi. This structure helps maintain the necessary humidity around the mycelium while preventing the substrate from becoming too compact or waterlogged, which can hinder mushroom development. They are naturally rich in lignocellulosic material, which provides a robust food source for the mycelium to thrive on. Using peanut shells not only helps in reducing agricultural waste but also promotes a sustainable cycle of resource utilization, making them a favoured choice in environmentally conscious mushroom cultivation practices.





# SUSTAINABILITY

## Activated Carbon from Peanut Waste

### Production Process:

Peanut shells converted into activated carbon through activation, heating the biomass at high temperatures with gases like steam or carbon dioxide. This creates a highly porous structure with significant adsorption properties.



## WHY SHOULD WE CONSIDER BUYING BIOCHAR CARBON CREDITS?

- Biochar is the only large-scale commercial solution that allows CO2 sequestration at a reasonable price, unlike DAC.
- Carbon removal via biochar is a permanent event which lasts at least hundreds of year, sometimes even thousands.
- Each biochar has multiple environmental and social co-benefits in addition to removing CO2 from the atmosphere directly.
- Biochar carbon credits increase the accessibility of biochar for buyers who could not until now use it due to the price of biochar.

## WHY SHOULD PRODUCERS CONSIDER GENERATING BIOCHAR CARBON CREDITS?

- Increase the recognition of biochar in diverse markets and therefore its demand.
- Contribute to meeting climate change goals.
- Increase production capacity for both biochar and carbon sequestration.

## Biochar from Peanut Waste

Peanut shells and residues undergo pyrolysis, a process conducted without oxygen, to produce biochar along with bio-oil and syngas. Biochar, a stable carbon form, enhances soil fertility, water retention, and microbial activity. Its high carbon content allows long-term carbon sequestration, mitigating climate change by reducing atmospheric CO2. Furthermore, integrating biochar into soil enhances structure, nutrient retention, and plant growth, reducing reliance on chemical fertilizers and environmental pollution.

For net-zero targets, BCR isn't optional - it's crucial. It can handle between 0.44–2.62 Gt CO2 removal yearly, covering up to 35% of CDR needs in climate stabilization scenarios.

- Biochar Carbon Removal is a way to sequester carbon dioxide from the atmosphere with wide-ranging co-benefits.
- Biochar's use as a soil amendment can improve food security and soil health while removing carbon from the atmosphere.
- Businesses seeking carbon removal credits should consider biochar as an avenue for maximum impact.



# PEANUT PROSPERITY HARNESSING WASTE FOR WEALTH IN THE CIRCULAR ECONOMY

Transforming peanut waste into valuable products like biochar or activated carbon can indeed be an excellent way to generate wealth while promoting environmental sustainability.

Projects reducing emissions or sequestering carbon earn carbon credits, tradable on markets for

offsetting emissions. Credits are based on verified reductions or sequestration, following rigorous monitoring. Converting peanut waste to biochar or activated carbon offers wealth and sustainability benefits. They provide environmental gains like sequestration and waste reduction, while creating revenue and carbon credit opportunities. Valorizing agricultural residues fosters a circular, resource-efficient economy.

Environmental Benefits	Economic Opportunities	Corporate Benefits
<b>Water and Air Purification</b> Activated carbon is widely used to remove contaminants from water and air due to its high adsorption capacity for organic pollutants, heavy metals, and odors.	<b>Market Demand</b> Activated carbon is in high demand for applications such as water treatment, air purification, and industrial processes, creating a lucrative market for products derived from peanut wastemetals, and odors.	<b>Incentivizing Sustainability</b> Carbon credits provide financial incentives for projects that reduce greenhouse gas emissions or sequester carbon, encouraging investments in sustainable practices, metals, and odors.
<b>Waste Management</b> Utilizing peanut waste for activated carbon production reduces the amount of agricultural residues sent to landfills, thereby minimizing methane emissions and environmental pollution.	<b>Carbon Credits</b> Similar to biochar, the production of activated carbon from agricultural residues may qualify for carbon offset credits, providing financial incentives for sustainable practices.	<b>Revenue Generation</b> By participating in carbon credit markets, farmers or biochar/activated carbon producers can generate additional income while contributing to climate change mitigation efforts.



# BIRD FEED

## NUTRIENT DYNAMICS IN BIRD PRESERVATION

Peanuts are rich in protein and fats which contributes muscle and feather growth in birds. Vitamin E enhances immunity and improves detoxification while PUFA prevent atherosclerosis and protect blood vessels in birds. Peanuts can prevent bird diseases such as Tibial dyschondroplasia, infertility, micromelia, cage layer fatigue, etc.,

Declining insect populations, coupled with habitat loss at a rate of 5.9 million hectares per decade, threaten a catastrophic collapse of ecosystems, potentially leading to the extinction of up to 14% of bird species by 2100.

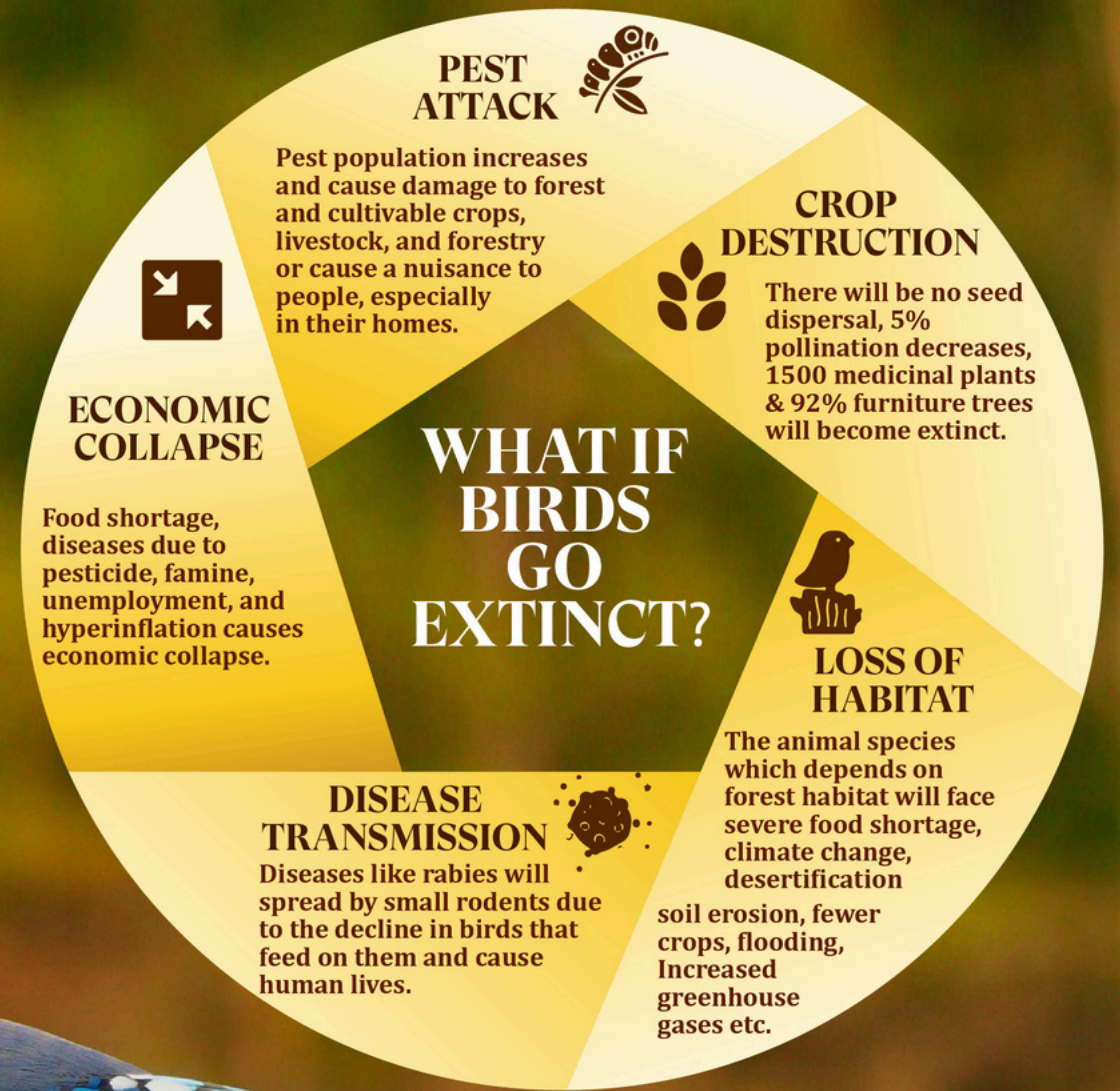
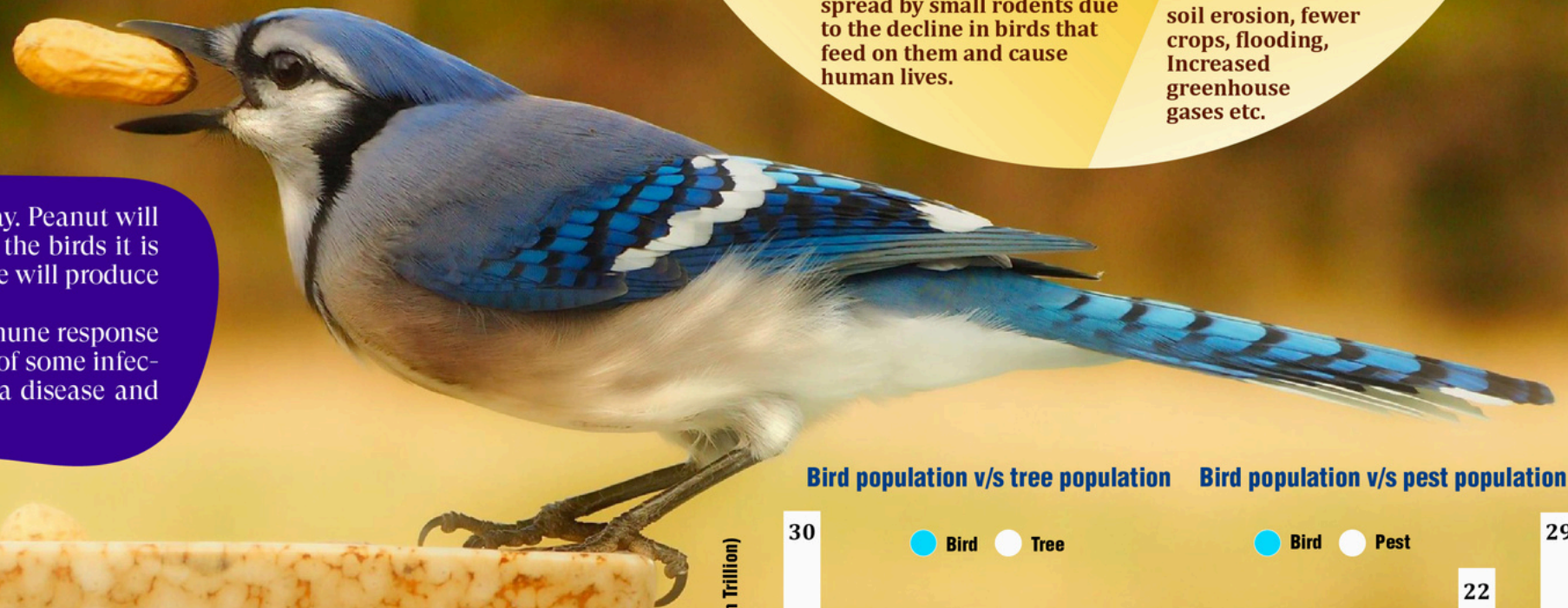
Providing alternate food sources for birds, especially during times of crisis like the pandemic, can help mitigate the decline in bird populations and safeguard the balance of nature's ecosystems.

The increase in feeding habits even in the pandemic help the birds not to go extinct.

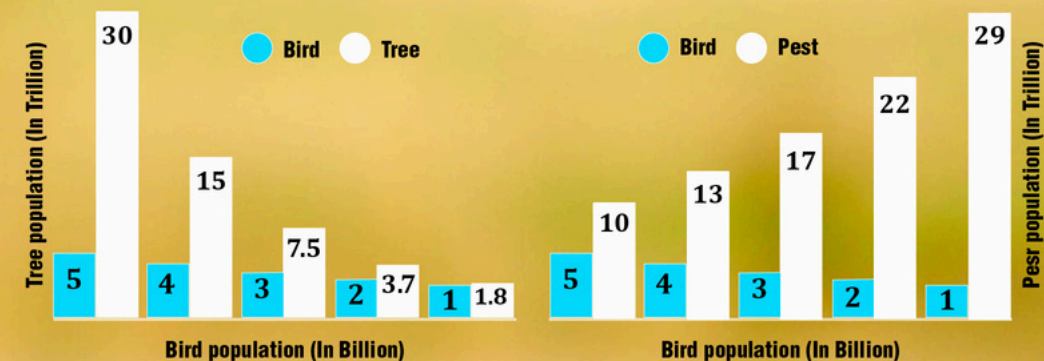
## FACTS

A good peanut will power a cold chickadee for a day. Peanut will provide most of the micro and macronutrients for the birds it is also proven that a bird eating 16 Peanuts on average will produce healthy offspring.

The poor quality Peanuts will cause weakened immune response due to aflatoxin. It also results in the development of some infectious diseases such as coccidiosis, infectious bursa disease and respiratory infections.



Bird population v/s tree population      Bird population v/s pest population





# CHALLENGES & OPPORTUNITIES IN DEVELOPING ALLERGEN-FREE PEANUT PRODUCTS

Food allergy is a growing global health concern. It impacts approximately 5% of young children and 3% to 4% of adults in Westernized countries and is increasingly prevalent in developing countries. While almost any food can cause an allergic reaction, over 90% of food allergies are triggered by eight primary food sources: milk, egg, peanut, tree

**For instance:** Peanut allergy can be life-threatening, often persists into adulthood, and is challenging to avoid completely. This poses significant quality-of-life issues for affected individuals and complicates allergen labelling for the food industry. Addressing this issue is crucial for both peanut-allergic individuals and the food industry.



nuts, shellfish, fish, wheat, and soy. Among these, peanuts are particularly allergenic. Peanut allergy is not only widespread but also escalating rapidly.

## Methods to Reduce Peanut Allergenicity

**Breeding:** Conventional breeding is slow, and mutation breeding raises food safety

Source: Zhou Y, Wang JS, Yang XJ, Lin DH, Gao YF, Su YJ, Yang S, Zhang YJ, Zheng JJ. Peanut Allergy, Allergen Composition, and Methods of Reducing Allergenicity: A Review. *Int J Food Sci*. 2013;2013:909140. doi: 10.1155/2013/909140. Epub 2013 Jul 21. PMID: 26904614; PMCID: PMC4745518.



# PEANUT SCIENCE

concerns, hindering progress in this method.

**Heat and Pressure Treatment:** While effective to some extent, roasting only assists in reducing allergenicity, boiling has limited effects, and autoclaving is energy-intensive and requires expensive equipment.

**Transgenic Technology:** Promising for producing allergen-free varieties, but faces public resistance to genetically modified foods and flavor issues.

**Tannic Acid:** Useful but has significant drawbacks, making it more of an auxiliary method. PUV (Pulsed Ultraviolet Light)

**Treatment:** Faces similar challenges as mutation breeding, limiting its development.

**Magnetic Beads Capture:** A promising method for reducing allergenicity.

**Enzymatic Treatment:** Currently the most promising approach. It is mild, natural,



generally does not produce harmful substances, and is widely accepted by the public. Mohamed's team has developed a cost-effective enzymatic treatment that preserves peanut nutritional value, making it highly promising.

**Fermentation:** Holds great potential for reducing peanut allergenicity. It combines the advantages of enzymatic treatment, is often more cost-effective, and has been identified as a potential leading method despite being less frequently reported.

In conclusion, while several methods exist to reduce peanut allergenicity, enzymatic treatment and fermentation stand out as the most promising approaches. They offer effective, natural, and publically acceptable solutions to address the growing concern of peanut allergy worldwide.

## The prevalence of peanut allergy in some countries:

U.S children	1.40%	Denmark	0.2-0.4%
Britain children	3.2%	Local Singapore school children (14-16 years old)	0.47%
Canadian children	1.03%	Philippine school children (14-16 years old)	0.43%



# CONTRIBUTOR SPOTLIGHT



**Mr. Deepauk**  
Procurement Mgr  
Agrocrops



**Mr. Jorge Rocha**  
Sales Manager  
Samtraco



**Yu Xiao Yan**  
Manager  
QingDao FeiYang Seeds



**Mr. Alex Izmirlian**  
Co President  
Alimenta Agri LLC



**Mr. Daman Chand**  
Sr Mgr procurement  
Agrocrops

## Upcoming Events

**USA**  
**PEANUT**  
**C O N G R E S S**  
**JUNE 10-13**

