PEANUT POST

NOV 2026

VOLUME III

The Business Behind Peanuts

People, Pressure and Perseverance



Global Markets P6



Bird Feed P16



Peanut Science P18

Peanut Wizard | Current Crops | Shelled Facts | Peanut Voice | Sustainability

Market Highlights



DEMAND

Indonesia

Indonesian demand remains strong, with local traders unable to secure supplies from importers increasingly seeking peanuts directly in international markets. Domestic prices remain firm at **IDR 40,000/kg,** although lower-quality parcels are trading around **IDR 33,000/kg.** Prices remain highly volatile, with a downward bias.

Quota approvals are gradually progressing, allowing buyers to place orders for raw and blanched peanuts from India and China. One state-owned company reportedly benefits from priority access and smoother processing, while many other importers' applications remain pending.

Indian new-crop **TJ 80/90** was contracted at **USD 1150–1,250/ tonne CIF basis.** With current Indian prices around **USD 1,350/ tonne,** suppliers are executing shipments at a loss or delaying deliveries. Chinese suppliers face similar margin pressure following the strengthening of the renminbi. Purchases from China mainly comprise **Baisha 50/60** and **61/71 blanched peanuts.**

Indonesian stocks remain tight. Snack manufacturers are sustaining supplies through direct imports under their limited quotas, while much of the wider importing trade continues to await approvals.

China

Chinese demand for peanut oil remained strong at prices up to **USD 1,650/tonne** for Brazilian and Indian origins. However, Indian offers now at **USD 1,750–1,850/tonne CIF Qingdao** leave little room for trade. Brazil remains an option, while Senegal has limited uncommitted availability. Argentina shows little selling interest in oil, supported by higher confectionery-grade prices and substantial commitments of crushing peanuts directly to China.

These constraints, alongside tightening Chinese prices, could support further increases over the next **two to three months,** although a trigger is needed. Potential catalysts include a stronger renminbi improving import economics, Chinese New Year buying, or farmers withholding new-crop supplies as domestic prices fall below production costs.

Demand for imported food-grade peanuts remains virtually absent. Ample domestic new-crop availability and slow offtake are keeping Chinese factories focused on hand-to-mouth purchases, with little appetite for speculative buying.

RoW (Rest of the World)

Vietnamese demand remains extremely weak, with Indian-origin availability largely limited to leftover stocks. Chinese new-crop peanuts have taken over at low prices of VND 35-37k/kg, reportedly arriving overland, potentially without payment of applicable duties.

Philippine demand for raw peanut kernels is weak at 90 pesos / kg, while blanched-kernel demand remains steady at 95 pesos/kg. Thailand shows interest in Indian new-crop peanuts, although price resistance continues to constrain deals.

Across Southeast Asia, trading remains quiet to sideways. Rising freight rates are adding to landed costs and reducing price competitiveness.

Europe and premium markets such as Japan are also subdued, with isolated pockets of demand proving difficult to convert into business. Based on the trade feedback gathered, activity and deals concluded in SIAL appear lacklustre.



SUPPLY

China

China has been aggressively offering raw peanuts, although selling interest softened in the **second half of October** as the yuan strengthened. Prices have remained largely unchanged, but offers have reduced, with rising freight rates further discouraging suppliers.

Raw peanuts remain competitively priced, supported by low farmgate prices for the new crop. Substantial old-crop carryover adds to ample availability, although freight and foreign-exchange risks are limiting suppliers' appetite for business. Raw peanut prices ranged from $1250-1350/ton CFR SEA ports, blanched peanuts ranged from

Processing capacity remains readily available, with factories operating below full utilisation.



India

India enters the season with strong domestic support and reduced dependence on exports. A firm MSP (Minimum Support Price) for government procurement, alongside exceptionally strong domestic peanut oil demand, could see suppliers retreat from export markets or trade selectively, much like their Latin American counterparts.

Despite a marginal increase in acreage, yields are estimated to be down 19–20% amid poor pre-harvest rainfall. Dry conditions may limit aflatoxin risk, although crop quality remains to be confirmed. Opening new-crop prices are reportedly 8–12% higher, reflecting the tighter supply outlook.

Extreme dry weather in southern India is also increasing reliance on supplies from **Rajasthan, Gujarat, Madhya Pradesh and Uttar Pradesh,** adding pressure to domestic availability.

With internal demand underpinning prices and absorbing supplies, Indian export availability is likely to remain challenging this season.



Latin America

Argentina and Brazil retain a bullish outlook, although sentiment remains fragile and is not supported by strong demand. Firmer currencies and rising freight costs are discouraging exporters from offering aggressively, prompting a hold-and-watch approach similar to China.

Stocks remain ample, with good availability for sale. Suppliers typically begin liquidating stocks around **50–60% through the season,** depending on demand. Following reportedly lacklustre business at SIAL, pressure to release stocks could weigh on Latin American prices.

Brazil's election remains a factor to watch for its potential impact on currency movements and export pricing. Some shippers are holding back offers until the results provide greater clarity.

The Business Behind Peanuts

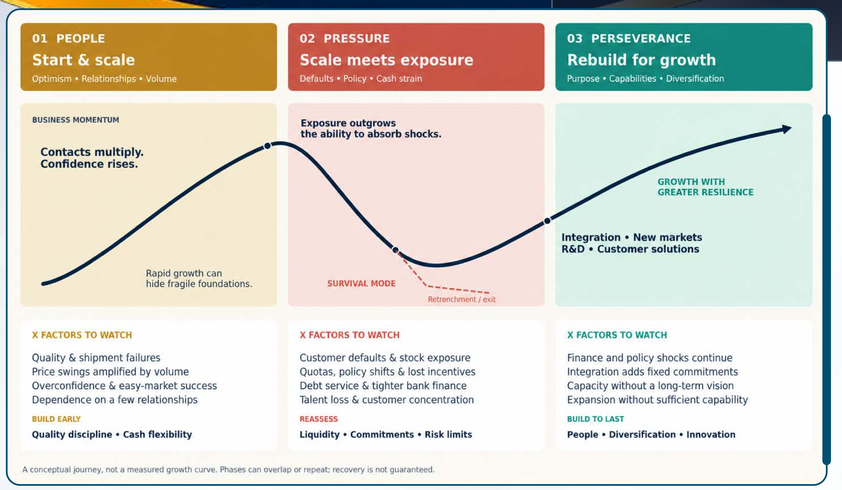
People, Pressure and Perseverance

Behind every shipment of peanuts sits a business shaped by relationships, decisions and uncertainty. The journey often moves through three overlapping phases: the energy of starting, the pressure of growing and the perseverance required to build something lasting.



For me, survival in peanuts begins with people—customers, suppliers and employees. Resources only work when relationships are managed well. Innovation starts even in trading: shipment planning, price hedging, quality advice and timing – all create value. To excel, science and data must guide solutions beyond individual judgment. "Our ability to adapt to evolving dynamics is driven by our attitude – **Peanut or nothing.**"

Saravanan Lokasundaram
CEO, Agrocrops Group



THE BUSINESS BEHIND PEANUTS

People, Pressure and Perseverance

01 People: The Energy of Starting

A peanut startup begins with optimism. Opportunities look abundant, ambition is strong, and experience has yet to reveal the full complexity of the trade. Accessible markets provide an entry point, while suppliers, brokers, employees and customers help the business find its footing.

In an industry driven by volume, relationships can accelerate growth remarkably quickly. Contacts multiply, knowledge circulates, and annual growth of 50–100% from a small base can make larger ambitions feel entirely achievable.

One industry journey illustrates this pace: annual turnover rose from approximately US$750,000 in the first year to US$5 million in the second, US$11 million in the third and US$18 million in the fourth. By year seven, it approached US$190 million. Such expansion shows the opportunity available—and how quickly the scale of responsibility can change.

India's ecosystem continues to attract young entrepreneurs and second-generation business owners extending established domestic operations into exports. New participants bring resources, connections and competition. Employees gain experience, and some eventually establish enterprises of their own.

Early success, however, can create an incomplete understanding of risk. Quality failures, shipment problems and price movements reveal what rising turnover can conceal. At substantial volumes, small changes can materially alter profitability.

Strong relationships open doors. Quality discipline, financial flexibility and an understanding of exposure help keep them open.

02 Pressure: When Scale Changes the Stakes

As earlier efforts begin to deliver, business can expand faster than the organisation's capacity to manage it. Successful transactions reinforce confidence. Trading appears highly rewarding, and favourable conditions can begin to feel permanent.

Yet volume magnifies consequences. In the same industry journey, defaults involved quantities ranging from approximately 500 to 10,000 tonnes, while stock positions ranged between 2,000 and 20,000 tonnes. Attractive returns coexisted with substantial exposure. Operating without debt provides flexibility, but it does not eliminate commercial risk.

Some businesses use strong trading years to invest in integration. Processing, quality control and infrastructure can strengthen the model beyond buying and selling. A transition involving approximately US$10–20 million demonstrates the commitment this can require. Returns take time, while operating costs and capital requirements begin immediately.



Integration also changes the nature of pressure. Government policies shift, quotas restrict access, incentives are withdrawn, expected subsidies fail to materialise, or banks tighten credit. Financing costs rise precisely when the business has more capital committed to facilities and operations.

Liquidity can become so constrained that even routine procurement requires extraordinary measures—including, in difficult periods. **Behind impressive turnover figures can sit very uncomfortable decisions.**

For some companies, expansion gives way to survival. Financial strain becomes personal strain. Passion weakens, and the ordinary life left behind begins to look attractive again.

The psychological adjustment can be especially difficult. Early success has established a strong belief in the business's capability. Another shipment or a better season may help, but recovery often requires a more fundamental reassessment of commitments, concentration and the operating model.

03 Perseverance: The Determination to Grow

Beyond the initial tests, perseverance becomes a commitment to purposeful growth. A factory, processing knowledge and an established customer base provide foundations. Lasting progress requires a vision for how those capabilities can develop and contribute to the industry.

Peanuts offer considerable scope for reinvention. Oil, ingredients, organic products, fair-trade supply chains, processed foods and consumer products each serve distinct markets. This breadth creates opportunities to diversify, although every vertical requires its own expertise.

Diversification across products, customers and geographies can reduce dependence on any single market.

Supplying a product becomes part of a wider offering that includes technical expertise, supply solutions and new product development. R&D strengthens this capability, while connections from farming through processing to consumer markets deepen the business's understanding of the industry.

People make that transition possible. Employees who accept responsibility, maintain continuity and help develop new directions become part of the company's resilience. Their contribution extends well beyond the transactions they handle.

Capital remains necessary, but its importance becomes clearer in context. It can fund infrastructure and inventory; it cannot independently create judgment, trust or commitment.

The deeper investment is the connection between people, the product and the market. Difficult to measure or perform a due deligence, these qualities accumulate through experience. They help a company adapt when familiar advantages disappear—and give perseverance a direction beyond survival: the determination to keep building, improving and growing.

Product Diversification
Oil • Ingredients • Processed foods • Organic • Fair-trade

Market Expansion
Multiple customers Multiple geographies

Innovation & R&D
Technical expertise New product development

People & Culture
Employees • Continuity • Long-term capability

Global Markets

ARGENTINA



Peanut planting in Argentina remains delayed as abnormal October weather conditions create an unfavourable planting environment, raising concerns across the sector. Valuable days in the first planting window are being lost, potentially affecting yield prospects. Despite these delays, Argentina's 2026/27 peanut planting intention remains around 430,000 hectares, representing a 2.4% increase from the previous season, according to the Secretariat of Agriculture, Livestock and Fisheries (SAGyP), as reported on October 15. Córdoba province is projected to record a nearly 3% increase in planted area, supported by a favourable international market outlook. Georgalos Peanut World (GPW) shares a similar outlook, estimating that the final planting area could reach or exceed 430,000 hectares. However, planting progress and weather conditions remain key factors to watch as the season advances.
Source: Georgalos Peanut World (GPW)

BRAZIL



Brazil's 2026/27 peanut crop is off to its best start in years. Planting has reached around 60% of the expected area, with good emergence and uniform stands. Since September, rainfall in São Paulo's main producing regions has been well above the 10-year average, giving growers the best soil moisture at planting in recent seasons. The rains caused only brief pauses in fieldwork, and forecasts point to regular, near-normal rainfall into mid-November. The crop, however, will be smaller. Planted area is expected to fall 25–28%, as rural credit in São Paulo dropped 42% between July and September and certified seed use slipped to around 25% of the area, from 50–60% two seasons ago. Domestic in-shell prices remain at R$75–80 per 25 kg bag, growers are holding their positions, and expectations for next season are positive. Kernel exports rose 16% through September and are on pace for another record year, while peanut oil exports fell 22% on weaker Chinese demand. Quality remains a clear advantage: Brazilian peanuts recorded no EU aflatoxin notifications in August, and from February 1 Brazil's own limit tightens from 20 to 15 ppb.

USA

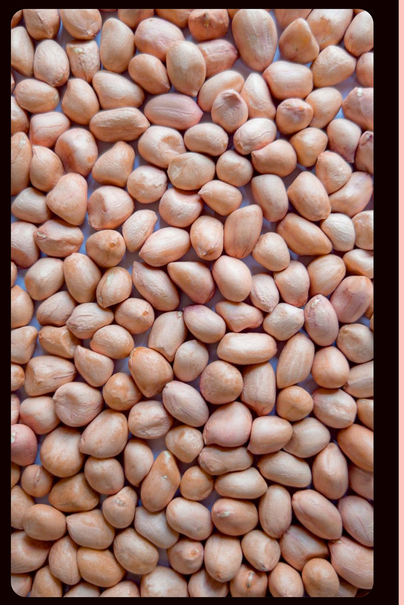
The US peanut market remains subdued, with weak domestic demand and substantial carryover stocks weighing on market conditions. A projected production decline of approximately 20% could help reduce excess inventories and restore market balance, provided yields remain near average despite reduced planted acreage. Loan peanuts must be redeemed before the deadline, while warehouse capacity is needed for the incoming crop, adding pressure to inventory movement. With domestic food consumption showing little growth, export demand will be critical to clearing surplus stocks and supporting market stability in the year ahead. **Source:** Georgalos Peanut World (GPW)



PEANUT SPOTLIGHT

INDIA

South India: Tamil Nadu arrivals remain low at 20–50 bags in Alangudi, with buying at ₹5,000–₹5,200 per 40 kg. Andhra Pradesh and Telangana report 200–500 bags in Gadwal and Adoni, with tag-shell peanuts at ₹96/kg. Karnataka arrivals remain negligible. Sowing has begun across Tamil Nadu and North Karnataka; limited arrivals are expected next month in Hiriyur, Chitradurga and Sira. Buyers across the southern states rely heavily on Gujarat supplies.
MP–UP: Arrivals are increasing, with clear weather supporting harvesting. Jhansi recorded around 40,000 bags. South Indian buyers and exporters are purchasing selectively, while export demand remains slow. Rates: 8090 TJ ₹118/kg; 5060 Java ₹120–121/kg.
Gujarat: Arrivals remain under pressure, with pending stocks of 40,000 bags in Deesa and 30,000 in Gondal. G20 Bold (40/50 count) trades at ₹119/kg; 5060 Java at ₹136/kg and 8090 Java at ₹129/kg. Peanut oil remains firm at ₹180 (0.5 FFA), while oil cake fell ₹50.
Rajasthan: Arrivals are gradually increasing. Bold 40/50 count traded at ₹128/kg for Maharashtra delivery. Local demand is steady, with exporters buying as required.



INDONESIA

Indonesia's peanut market is experiencing firm demand alongside declining prices, with buyers seeking lower-priced incoming cargoes. Import quotas have been issued, and most major importers already have shipments incoming, adding pressure to new-cargo offers.
Import Market: China 50/60 is quoted at IDR 38,000 for old cargo and IDR 40,000 for good-quality cargo. Henan 70/90 is at IDR 37,000 for good cargo and IDR 35,000 for old cargo. PPI Red TJ 80/90 is quoted at IDR 36,250–36,500, while incoming white cargo is offered forward at IDR 33,000. The 140/160 grade stands at IDR 38,000, with limited availability.
Local Crop Market: Arrivals remain steady, with prices largely unchanged. Tuban 50/60 is at IDR 41,000, 80/90 at IDR 38,000, and unsorted peanuts at IDR 36,000. Bima crop is quoted at IDR 36,000. All local prices are ex-PPN.

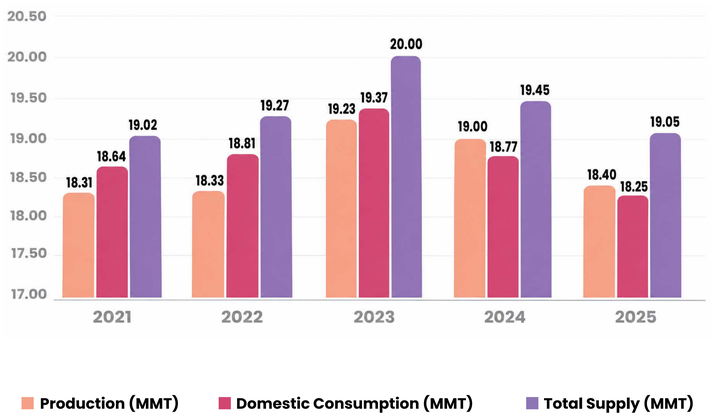


CHINA

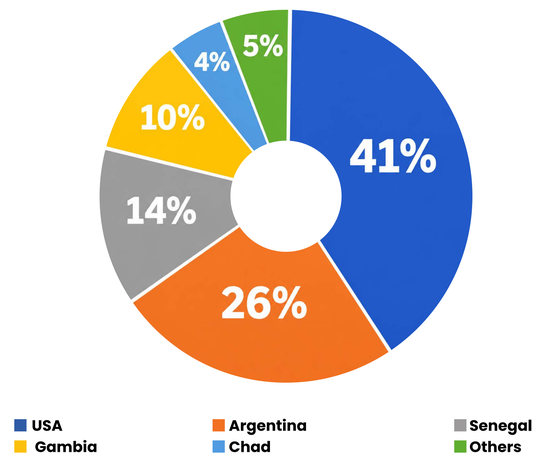
China's domestic peanut market is showing a slight upward price bias, with Baisha purchasing and export quotes rising by RMB 100/ton. The commencement of oilseed peanut procurement at RMB 7,700/ton, slightly above market expectations, has improved market sentiment and encouraged selective restocking among traders. Slowing new-crop arrivals and reduced availability of premium-quality peanuts are providing price support. However, high moisture levels increase storage risks, while strict quality standards limit the volume suitable for procurement. Meanwhile, food-sector demand remains weak, with sluggish transactions in major consumption markets, including Fujian and Guangdong. Processors continue to resist higher prices, while holders of high-moisture stocks face pressure to liquidate inventories. Although recent procurement activity has strengthened the short-term price floor, the rally remains largely sentiment-driven. With the final production shortfall proving less severe than anticipated and downstream consumption weakening, overall supply remains ample relative to demand. Prices may remain supported in the near term, but a sustained recovery will depend on stronger demand and improved market absorption.

CHINA DEMAND & SUPPLY

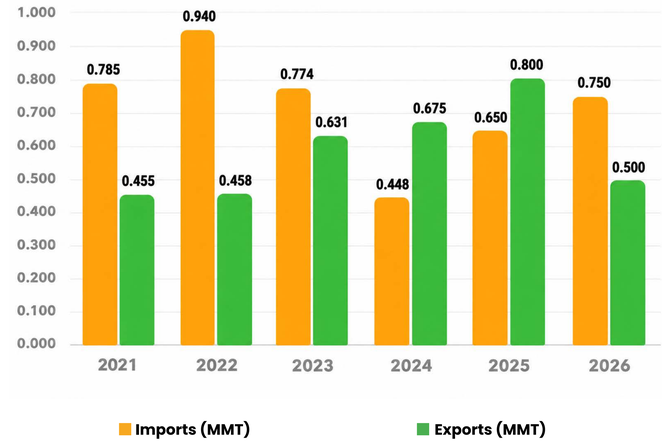
Production, Domestic Consumption & Total Supply (In MMT)



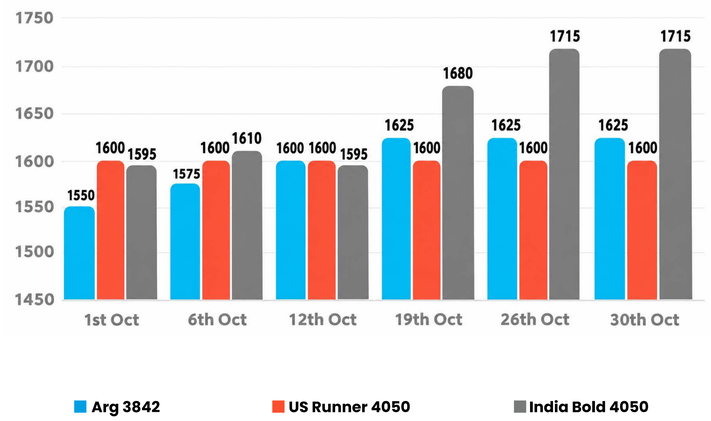
CHINA TOP IMPORT DESTINATION (H1 2026)



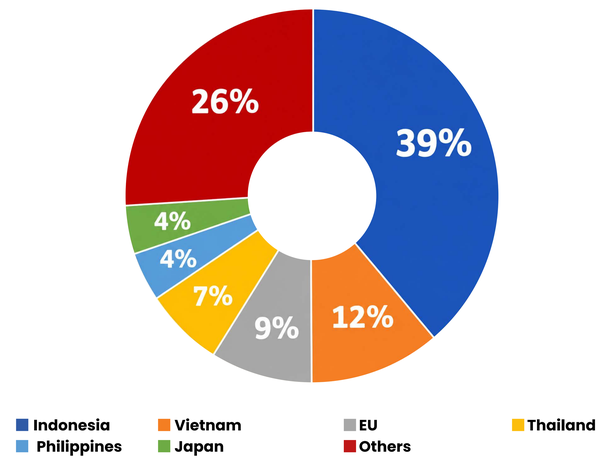
MY Trade (In MMT)



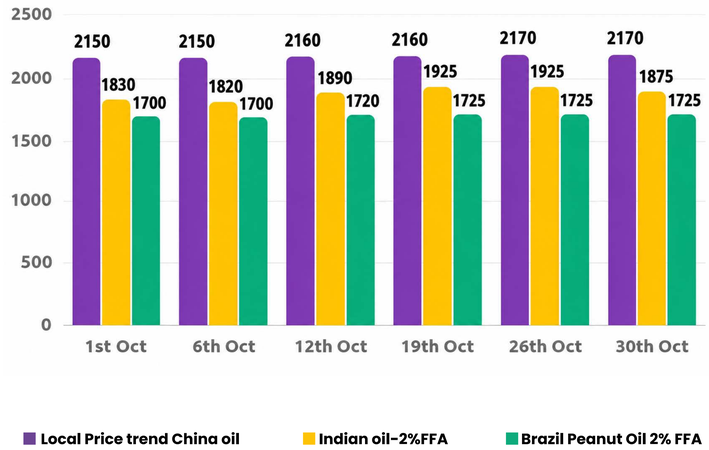
CIF EMP (European Main Port) PRICE COMPARISON in USD



CHINA TOP EXPORT DESTINATION (H1 2026)



Peanut oil price trends: China Local Vs FOB India Vs Brazil FOB in USD



Current Crops

Argentina

ARG 40/50 - $1690

Peanut planting is delayed by abnormal October weather, despite 430,000-hectare planting intentions, up 2.4% year-on-year.

Brazil

BRA 40/50 - $1480

Brazil's 2026/27 planting reaches 60%, with uniform emergence and favourable moisture despite 25–28% lower acreage.

China

CHI 41/51 - $1360 (FOB)

China's autumn harvest nears completion; new-crop arrivals slow as high moisture heightens post-harvest storage risks.

India

IND 40/50 - $1715

India harvesting has begun amid low arrivals; MP–UP and Gujarat arrivals rise, Rajasthan builds gradually.

South Africa

RSA 60/70 - $NA

USA

USA 40/50 - $1600

U.S. peanut acreage is down; near-average yields are essential as production is projected 20% lower.

Tanzania

TNZ 80/90 - $NA

PEANUT VOICE



Rohith Madhava Ram
Assitant Manager
AGROCROPS

Industry Experience : 18 years

"I joined Agrocrops from the media industry with no prior business experience and, through continuous learning, dedication, hard work, and the support of my colleagues, grew from Assistant Manager to Director."

My Experience in One Word:
GROWTH

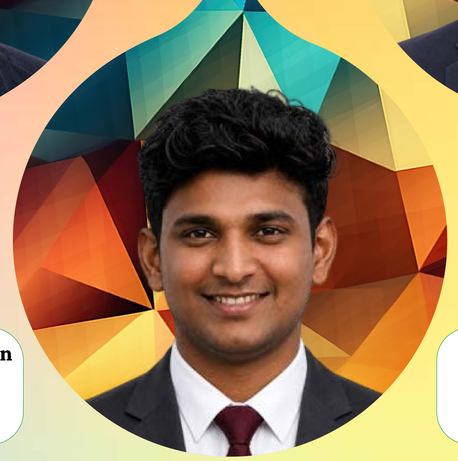


Daman Chand
Sales Manager
AGROCROPS

Industry Experience : 18 years

"Starting as a Quality Checker in 2008, I have progressed to Plant Manager through years of dedication, hands-on experience, and continuous learning."

My Experience in One Word:
DEDICATION



Adikesavalu Prabakaran
Director
AGROCROPS

Industry Experience: 2 Years

"Every day brings a new challenge, while the management's openness to new ideas and the responsibilities entrusted to me continue to broaden my exposure and drive my professional growth."

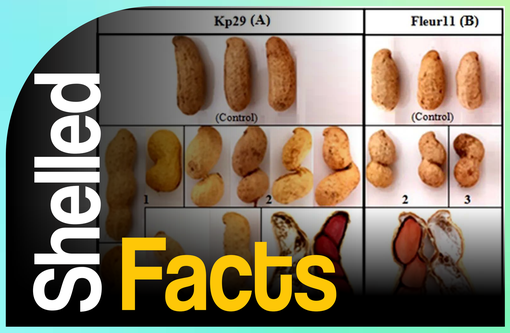
My Experience in One Word:
KAIZEN

Ham Bahadur Chand
Plant Manager
AGROCROPS

Industry Experience: 20 Years

"From Quality Checking to Senior Manager, my 20-year journey has given me extensive expertise across quality assurance, production, traceability, ESG compliance, and team leadership, shaping my approach to operational excellence and sustainable growth."

My Experience in One Word:
EXCELLENCE

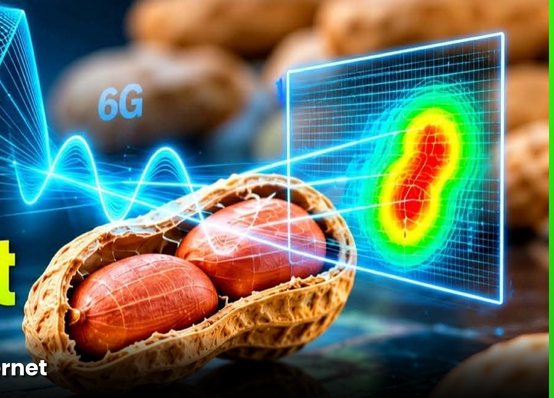


The Secret Behind Probiotic Peanut Butter

Ever wonder how probiotic peanut butters are actually made? Regular peanut butter has extremely low water activity, which is exactly why it stays fresh in your pantry for so long without spoiling. But adding live, beneficial microbes to the mix, is that difficult?

Not at all! The secret is microencapsulation. Food scientists wrap freeze-dried probiotics in microscopic protective shells before blending them into the spread. Because the peanut butter lacks the moisture needed to wake them up, the bacteria remain perfectly dormant and protected by the fat until they finally reach your digestive tract!

How the Tech Behind 6G is Helping Us Find the Perfect Peanut



The same technology that will soon power ultra-fast 6G internet on your phone is now being used to solve a very old farming problem: finding bad peanuts without breaking their shells.

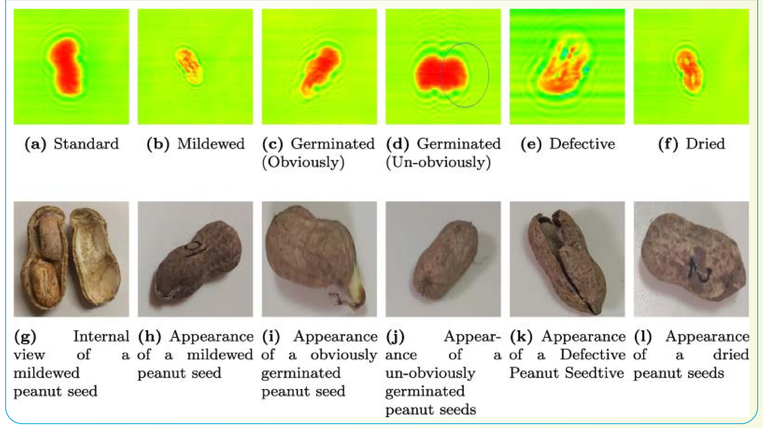
Every year, the peanut industry struggles with hidden defects. A peanut might look perfectly fine on the outside, but inside the shell, it could be dried out, prematurely sprouting, or worse, moldy and carrying harmful aflatoxins. To check for quality, inspectors usually have to crack the shells open and destroy the nuts in the process. It's slow, expensive, and wastes a lot of good food.

That's where terahertz waves come in.

Terahertz waves are completely safe and can pass right through a hard peanut shell. Even better, these waves are highly sensitive to water. By scanning a batch of whole peanuts, the system creates a detailed map of the moisture hidden inside each shell. A healthy, fresh peanut has a completely different moisture pattern than a moldy, defective, or dried-out one.

To make this useful for mass production, researchers paired this terahertz scanner with a smart AI system. The AI instantly reads the moisture maps and sorts the uncracked peanuts into categories: standard, mildewed, defective, dried, or germinated.

Terahertz Images and Appearance of Peanuts with Different Qualities



The results are incredibly impressive. The system can accurately grade a hidden peanut with **98.7% accuracy** in just about two seconds. It requires no messy lab prep and leaves the shell completely intact.

As the world gears up for the lightning-fast connectivity of 6G, it's pretty amazing to think those exact same signals will also be used on the factory floor to guarantee the peanuts making it into your pantry are safe, fresh, and perfectly tasty.

98.7%
ACCURACY

~ 2 *SECONDS PER SCAN*

"See what's inside—without breaking the shell."

Reference: Machine learning-based non-destructive terahertz detection of seed quality in peanut | PMC https://pmc.ncbi.nlm.nih.gov/articles/PMC11327472/

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ISM MIDDLE EAST

ISM MIDDLE EAST 2026

03 – 05 November 2026

Dubai World Trade Centre, UAE

BEYOND THE KERNEL: PEANUT SHELLS IN FOOD-PACKAGING RESEARCH

Just 2.5% peanut-shell powder. Ten days of testing. A new direction for agricultural residue.

The part of a peanut left behind after processing may have a role beyond waste. A study published in Polysaccharides on 25 June 2026 investigated whether peanut-shell powder could be incorporated into 3D-printed packaging and help preserve fresh-cut fruit.



1 2.5% IN THE MATERIAL. A DIFFERENCE IN THE TEST.

Researchers blended peanut-shell powder at 2.5% by weight into polylactic acid (PLA), a polymer used in bio-based plastics. They processed the composite into printable filament, made prototype boxes and tested them with fresh-cut melon stored at 8°C for 10 days.

Compared with boxes made from PLA alone, the shell-containing prototypes better retained melon firmness and showed fewer visible signs of deterioration. Localised fungal growth appeared in the PLA-only packaging, while no visible deterioration was reported in the composite packaging at the end of the test.



These findings suggest that a small amount of peanut-shell powder can influence packaging performance under the study's specific conditions. They do not establish how the material would perform with other foods or in commercial-scale packaging.

2 WHAT HAPPENS WITHOUT OXYGEN?

The researchers also assessed anaerobic biodegradation under mesophilic conditions, similar to those used in some organic-waste treatment systems. Before glucose was added on day 62, the peanut-shell composite produced 154 ± 1 normal litres of methane per kilogram of substrate, compared with 115 ± 5 for PLA alone—about 34% more. Glucose was then added to assess microbial activity, and testing continued until day 99. This result does not prove that the material will biodegrade in soil or home compost.

34%

more methane production than PLA alone

3 FROM RESIDUE TO MATERIAL RESEARCH

Peanut shells contain cellulose, hemicellulose and lignin, making them candidates for material research. In this study, shell powder became a component of a printable composite that showed promising preliminary food-preservation performance.

Further work is needed to assess mechanical durability, production costs, food-contact safety and potential peanut-allergen risks. Performance beyond controlled prototypes also remains to be established.

The study points to a promising research direction: using an agricultural by-product as a functional component in food packaging, while recognising the safety and end-of-life questions that must be resolved before practical use.





Source:

Sambucci et al., "Peanut Shell Waste Valorization in 3D-Printed Biocomposites for Sustainable Food Packaging," Polysaccharides, 2026.

Read the original research paper
www.mdpi.com/2673-4176/7/3/76

© 2026 Sambucci et al., Polysaccharides (MDPI), Supplementary Figure S2(a). www.mdpi.com/2673-4176/7/3/76?utm_source=chatgpt.com

Sambucci et al., Polysaccharides, Figure 2. www.mdpi.com/2673-4176/7/3/76?utm_source=chatgpt.com

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THE SEED THEY KNEW AND CHOSE LESS

What can a bird's food choices reveal about learning?

A favourite seed seems like a sure bet: once a bird knows what works, why choose less? A July 2026 study in Ethology found a surprising pattern in domestic canaries. Their seed choices were often consistent, yet familiarity did not always make a food more attractive.

3 REPEATED TESTS

6 SEED TYPES

1 SURPRISING RESULT

The Study: Familiar Seed, Unexpected Results

Researchers repeated preference tests three times, offering six seed types: canary seed, hemp, flax-seed, bird's rapeseed, Niger seed and peeled oats. Most birds repeatedly selected particular seeds.

Then came a test involving white millet, a seed unfamiliar to some birds. Canaries already familiar with it selected significantly less than birds without prior experience—challenging the idea that birds simply avoid the unfamiliar.



Canary Seed



Hemp



Flax-Seed



Bird's Rapeseed



Niger Seed



Peeled Oats

Could experience make a seed less appealing?



Researchers suggested familiar birds may have learned that foraging on white millet was relatively inefficient. This is an interpretation, not proof of dislike: the study measured seed selection, not the birds' motives.

Here is the key distinction: consistency is not the same as conservatism. A bird can repeatedly choose certain foods without automatically rejecting a new option. Experience may influence feeding choices in ways a simple "favourite seed" explanation misses.

The finding has limits. These were domestic canaries, and white millet was the seed under investigation. The study does not establish how wild birds respond to peanuts, prove niger seed is universally preferred, or show that any ingredient performs best in every feed mix.

FROM FEEDING BEHAVIOUR TO SEED SOURCING

For bird-feed manufacturers and distributors, the lesson is not that one seed is universally best. Ingredient choice depends on the intended species, feeding application and product specification. The study did not test commercial feed mixes, so it cannot predict product performance; it does show why seed preference should not be treated as a universal rule.

At AgroCrops, we work with peanuts, niger seed and other agricultural seeds for B2B buyers. The right sourcing conversation starts with the buyer's application and the specification the ingredient must meet.



Sometimes, the most revealing question is not simply which seed a bird chooses—but what its experience has taught it.

Research:

Tim Andries, Stan Romijn, Sam Van Wassenbergh and Wendt Müller, Ethology, first published 23 July 2026. Read the original paper.
onlinelibrary.wiley.com/doi/10.1111/eth.70100

SHORT PLANT, BIG HARVEST

The Future of Peanut Farming Is the Dwarf Variety

Have you ever wondered why wheat and rice get all the agricultural glory for their high-yielding "dwarf" varieties, while the humble peanut has been left behind?

That is finally changing.



A SMALLER PLANT A BRIGHTER FUTURE

An international team of researchers, including experts from Murdoch University, has just mapped the most comprehensive genetic blueprint of the peanut ever created—the peanut "pan-genome." And the result is a breakthrough that could transform global food security: a brand new, high-yielding dwarf peanut.



WHY A DWARF PEANUT MATTERS

During the original Green Revolution, scientists discovered that breeding shorter, sturdier wheat and rice plants dramatically increased harvests. Taller plants easily fall over in the wind or rain, ruining the crop. Shorter plants can hold more grain, are much easier to harvest by machine, and can be planted closer together, allowing farmers to grow significantly more food on less land.

Until now, the peanut never had its equivalent.

THE GENETIC CHALLENGE

The problem was genetics. Over its evolutionary history, the peanut suffered severe genetic bottlenecks. This left cultivated peanuts with very narrow genetic diversity, making it incredibly difficult for breeders to create new, improved varieties.

To break this barrier, researchers didn't just map one peanut genome—they assembled 10 new reference genomes and analyzed the DNA of 2,320 different peanut varieties from 87 countries.

THE BREAKTHROUGH

Hidden deep in a swapped chromosome segment, the scientists discovered a gene controlling plant height. By crossing a naturally short peanut with a high-yielding variety, they created a new line called ***LuAi-1***.

This new dwarf peanut is half the height of its parent plant but produces **20% more yield** when planted densely.

> *For the hundreds of millions of people in South Asia and Africa who rely on peanuts as a critical source of protein and cooking oil, this tiny plant is a massive victory. Every yield increase paves the way to better global food security, proving that sometimes, the biggest revolutions come in small packages.*

10 new reference genomes

2,320 varieties analyzed

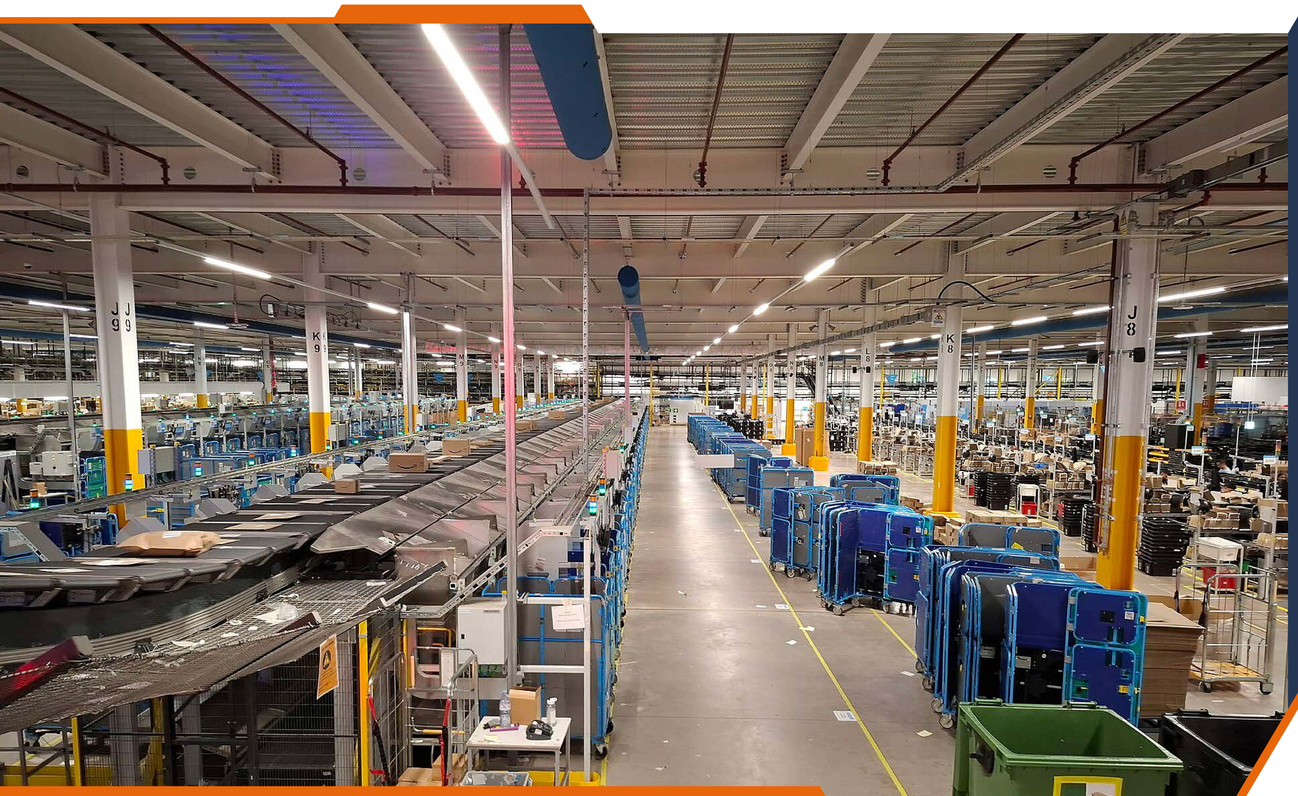
87 countries

20% more yield when planted densely

Half the height of its parent plant



Reference: Global peanut pan-genome unlocks hidden variation and delivers new high-yielding dwarf line https://www.murdoch.edu.au/news/articles/global-peanut-pan-genome-unlocks-hidden-variation-and-delivers-new-high-yielding-dwarf-line



FROM MOVING SHELVES TO SEEING THE INVISIBLE

What Amazon's robotics evolution can teach peanut processors about smarter automation.

Amazon's robotics journey began with a simple task: moving inventory shelves to workers.

After acquiring Kiva Systems in 2012, Amazon expanded its use of robotics to heavier loads, package handling and autonomous movement. By 2025, more than one million robots had been deployed across over 300 facilities.

The more important shift came with DeepFleet, an AI model designed to coordinate robot movement across fulfilment centres. Amazon says the system can improve fleet travel efficiency by 10%.

KEY MILESTONES

- **2012** — Amazon acquired Kiva Systems.
- **2025** — More than one million robots across over 300 facilities.
- **DeepFleet** — Designed to coordinate robot movement and can improve fleet travel efficiency by 10%.

The lesson is not simply that automation is becoming faster. It is becoming better at coordinating equipment, information and decisions across an entire process.



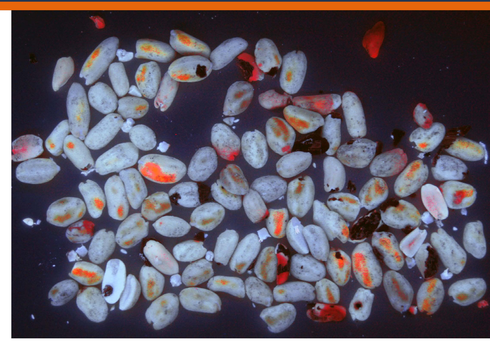
A SIMILAR DIRECTION FOR PEANUT SORTING

Peanut sorting is moving in a similar direction.

Conventional optical sorters are highly effective at identifying visible defects such as discolouration, damaged kernels and foreign material. But aflatoxin presents a more difficult challenge because a peanut may appear acceptable while still carrying contamination risk.

ADVANCED DETECTION TECHNOLOGIES

Specialised detection technologies are extending what sorting systems can identify. Commercial systems such as TOMRA's Detox use laser-based detection to identify faint optical signals associated with aflatoxin-producing fungi. Importantly, these systems do not measure the exact toxin concentration in every kernel. Instead, they identify risk-related signals and remove targeted product.



Factory-scale research has also demonstrated operation at commercially relevant speeds. In one study involving 80 trials at 2.4–4.0 tonnes per hour, the system achieved 99% specificity and 75% sensitivity under the study conditions.

Research is now moving further. Machine learning has been explored alongside laser-induced fluorescence at the single-kernel level, while 2026 research combined hyperspectral imaging with laser-induced fluorescence to improve identification of aflatoxin B1-contaminated peanuts.

> **The direction is becoming clearer:** the future is unlikely to depend on one sensor or one sorting step.

PREVENTION
Proper drying and storage remain fundamental.

SENSING
Optical sorting can remove visible defects. Specialised sensors can identify additional risk signals.

CLASSIFICATION
Algorithms can interpret complex data to support better decisions.

VERIFICATION
Representative sampling and laboratory analysis remain essential for verifying the final lot.

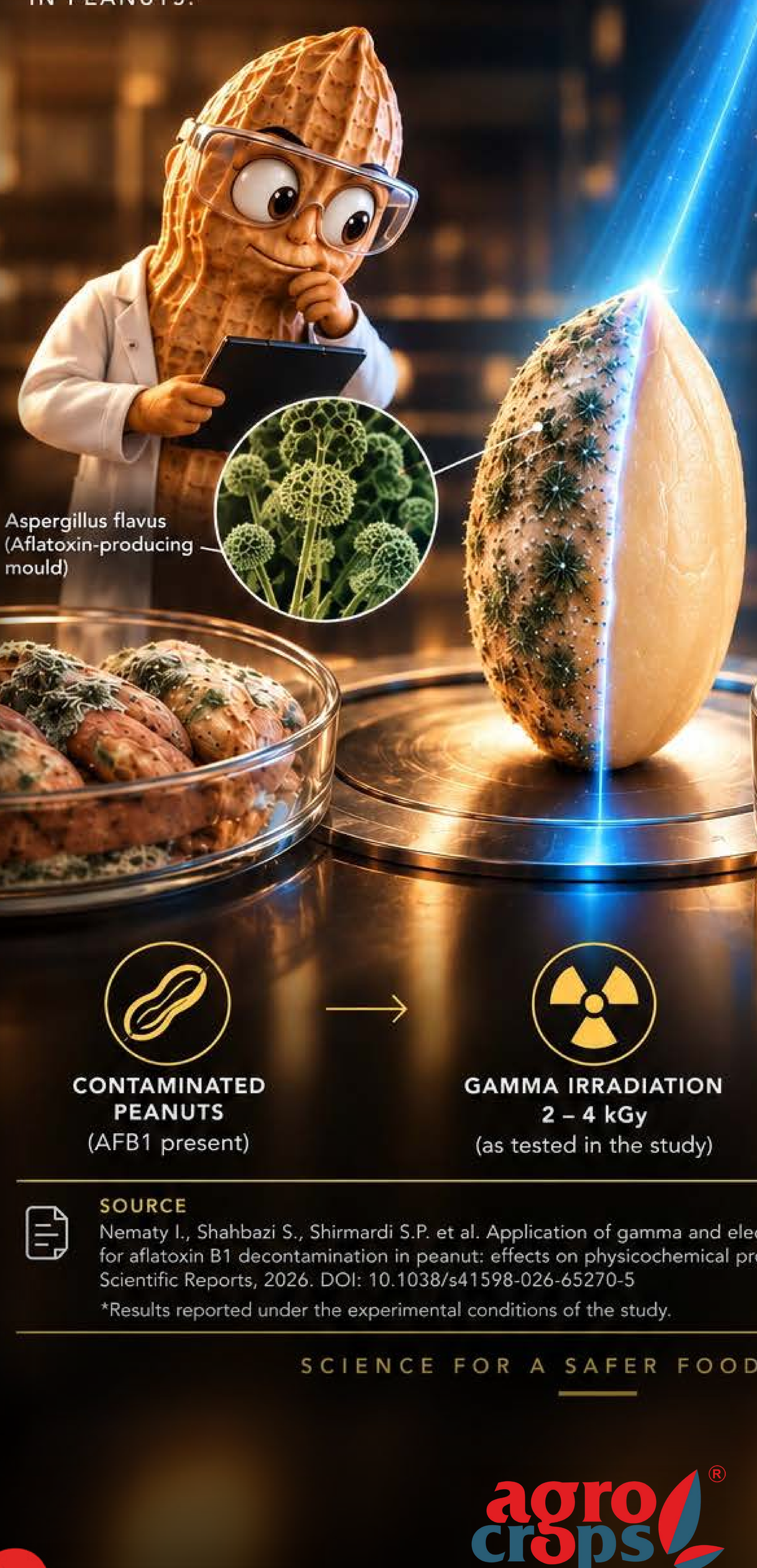
For peanut processors, the opportunity is therefore bigger than faster sorting. It is about building a system in which prevention, sensing, classification and verification work together to support better decisions.

The next frontier in peanut processing is not simply how quickly we can sort a kernel, but how intelligently we can understand it.

A SMALL BEAM. A BIGGER DIFFERENCE.

NEW RESEARCH SHOWS HOW IRRADIATION CAN SIGNIFICANTLY REDUCE AFLATOXIN B1 IN PEANUTS.

IRRADIATION TREATMENT



AFLATOXIN B1 LEVEL
(in µg/kg)



CONTAMINATED PEANUTS
(AFB1 present)

→

GAMMA IRRADIATION
2 – 4 kGy
(as tested in the study)

→

AFLATOXIN B1 REDUCED
74.7 µg/kg at 2 kGy
Undetectable at 4 kGy*

SOURCE
Nematy I., Shahbazi S., Shirmardi S.P. et al. Application of gamma and electron-beam irradiations for aflatoxin B1 decontamination in peanut: effects on physicochemical properties and food safety. Scientific Reports, 2026. DOI: 10.1038/s41598-026-65270-5

*Results reported under the experimental conditions of the study.

SCIENCE FOR A SAFER FOOD WORLD.

PEANUT BLOG

agro crops® we sow, you reap

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