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PEANUT POST

GLOBAL PEANUT MAGAZINE

THE ECONOMICS OF RAIN

PEANUT WIZARD

DOES THE WEATHER AFFECT PEANUT PRICES? ARE PEANUTS WATER-CONSUMING PLANTS?

Weather plays a crucial role in peanut farming, significantly influencing yield and quality. Optimal growth stages in peanuts require adequate rainfall and specific temperatures.

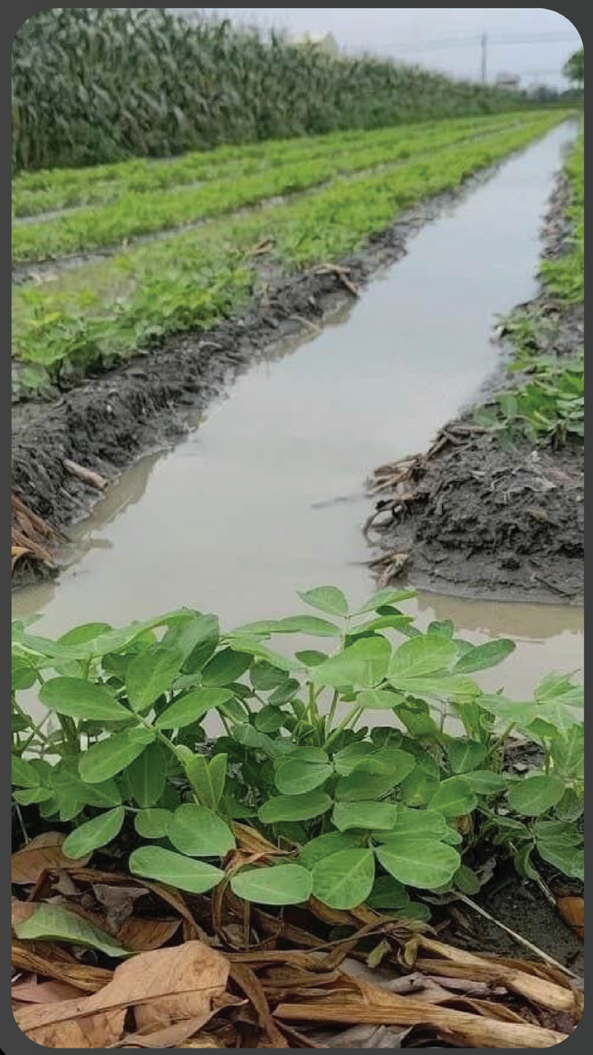
Impact of Rain and Temperature

Germination and Early Growth: Peanuts need moist soil and temperatures between 70°F and 85°F (21°C to 29°C) for seed germination and early growth. Adequate rainfall ensures strong root systems.

Nutrient Uptake and Pod Formation: Rainwater dissolves soil nutrients, making them available for peanut plants. Consistent moisture during flowering, pod formation, and filling stages is essential for higher yields. Ideal rainfall is 20 to 40 inches during the growing season.

Temperature Extremes: Temperatures above 95°F (35°C) can stress plants, reducing photosynthesis and pod development. Frost or temperatures below 32°F (0°C) can damage or kill plants.

Management Practices: In areas with erratic rainfall, irrigation maintains soil moisture, while drainage prevents waterlogging. Mulching, cover cropping retain moisture, aiding drought resilience. Crop rotation, resistant varieties manage weather effects. Farmers use forecasts for strategic planting, irrigation, and harvesting, reducing weather risks.



Causes of Aflatoxin & Yield

Aflatoxin	Yield
High humidity	Extreme temperatures
Excessive rainfall	Excessive rainfall
Delayed harvesting	Drought conditions

Weather's Effect on Peanut Prices and Trade

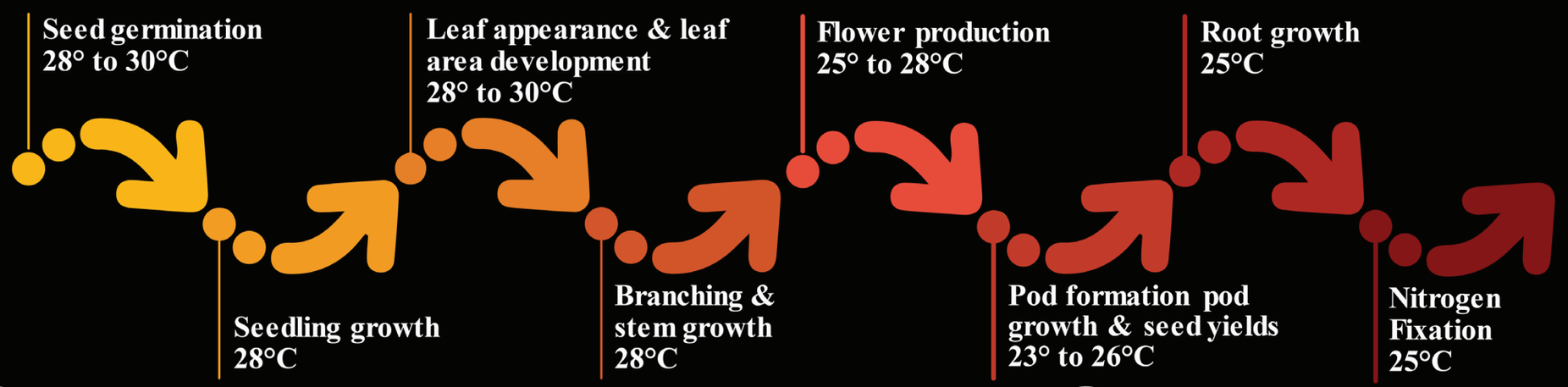
Year	Region	Country	Weather event	Peanut kernel Price per ton (before)	Peanut kernel Price per ton (After)
2017	Córdoba	Argentina	Drought	$1260	$1500
2017	Gujarat	India	Heavy rain	$965	$1100
2018	South eastern peanut belt	USA	Heavy Rain/Hurricane	$1380	$1220
2022	Liaoning and Jilin	China	Heavy rains/ Floods	$1400	$1650
2023	São Paulo	Brazil	Lack of rain/irregular rain & high temperature	$1500	$1700

- In 2017, Argentina's peanut production fell by 4%, exports by 8%, causing buyers to turn to Brazil.
- In 2018, despite US production setbacks from rains and cyclone, stable exports were maintained with surplus stocks.
- China's peanut exports fell by 8% in 2022, while India's rose by 25%.
- When one region experiences adverse weather, supply decreases, leading to price increases. Demand then shifts to other regions, stabilizing global supply chains.

Negative Effects of Rain: Excessive rainfall can lead to waterlogging, suffocating roots, promoting root rot, and causing diseases. It also causes delays, crop losses, and reduces quality during harvest. Conversely, drought conditions stress plants, stunting growth and pod development, sometimes leading to complete crop failure.

Humidity and Disease: High humidity promotes fungal diseases, impacting peanut quality and yield, while low humidity stresses plants.

Peanut plant growth stages and weather



Global Markets

ARGENTINA

Despite extremely cold weather and intense frosts, with temperatures plunging 6 to 8º below zero, the peanut harvest in Argentina has been exceptional. Yields have surpassed historical averages, with some lots showing outstanding production while others have lower yields. Peanuts have been delivered to buying points with moisture levels below 9%, ensuring very good quality. This excellent harvest positions Argentina well to meet supply demands for the European Union and regular buyers in Brazil.

BRAZIL

The recent devaluation of the Brazilian Real has improved conditions for peanut exporters, marking the most significant change recently.

Despite this, exporting peanuts from Brazil remains challenging due to persistent aflatoxin issues, stable international prices, and farmer stock levels holding back the industry's potential. With the USDBRL at 5.6, farmer inshell prices range between 0.78 and 0.85 USD/kg, lower than before. However, this change alone won't revive the industry; significant shifts in the international market, domestic sector, or both are needed.

On a positive note, the next crop might see a 5-7% increase due to low soybean prices prompting growers to switch to peanuts, though it's too early to be certain. In terms of demand, Russian buyers are actively engaging with Brazil, and Europeans are seeking short-term shipments due to Argentina's delayed crop. However, exporters face restrictions with the European Union. Chinese demand for oil remains low, and Italian demand is unclear, with minimal imports in June. Export figures are lower than usual, with about 19 MT of peanuts and 5.5 MT of peanut oil exported in June.

Overall, the Brazilian peanut industry faces multiple challenges but also holds potential for growth with the right changes in place.

USA

Stock levels are low, and with the export market slow to finalize positions, remaining stocks may be sold alongside the new crop arriving in November. U.S. peanut export demand has risen by 27.08% over the past 10 months. With a forecasted production of 6.8 billion pounds and higher yields, domestic food use is set to grow to 3.3 billion pounds due to falling prices. Export forecasts have been adjusted to 1.5 billion pounds.

PEANUT SPOTLIGHT

INDIA

In Gujarat, winter sowing has reached 105%, with peanuts being a preferred crop. Recent rains have been favourable in Saurashtra, Jamnagar, and Kutch, keeping the crops in good condition. North Gujarat also saw significant peanut sowing but currently needs more rain, though irrigation facilities are helping. Harvesting is expected in October, with about 15-20% of the winter 2023 crop stock remaining in Junagadh, Gondal, and Rajkot. The summer crop is nearly out of stock, with recent rains causing some quality issues.

In Rajasthan, peanut sowing is complete, and the crops are in good condition with favourable rainfall, maintaining 20-25% of the winter crop stock. Andhra Pradesh's sowing complete, though there is a 10% decrease in acreage. Karnataka is still in the sowing phase with favourable rains. Peanuts from Bengal and Uttar Pradesh are widely distributed across India for domestic use and export. Indonesia's demand is at $1150 for TJ 8090, China's oil demand is at $1600, while demand from Thailand, Vietnam, and the Philippines is not steady. The next two months may see sideways trends for exports and an upward trend for domestic markets.

AFRICA

Tanzania Tanzanian peanuts are in short supply as the season ends, with good quality nuts becoming hard to find and prices ranging from $980 to $1020. Exports are slowing down due to poor quality and high local demand. The new crop will be available starting in April.

Mozambique Crops from the origin are depleted. Present offers are in the range of $1100-1150 for 6070, but actual shipments are primarily of 8090. The old crop from 2023 was traded at $800-900 per ton to Indonesia. While new crops continue to arrive in Indonesia, the quantity is decreasing.
June & July.

Senegal The market is quiet with local trading, but there are crushing lots available for export without quotas.

CHINA

In recent weeks, oil factories across China have largely halted seasonal purchases, leading to a slowdown in market activity. After significant rainfall in Henan and Shandong provinces, stockers began to drive up prices and promote stock sales. However, with rain returning to normal and market activity slowing, selling prices are trending downward. Demand remains insufficient, and inventory levels have changed minimally. Current FOB prices are as follows: Blanched 25/29 at $1390, 29/33 at $1370, and 41/51 at $1370.The new crop area has increased by 10-15% compared to last year, though Henan's drought and recent rains have reduced unit production. Final production levels remain uncertain.In Huangdao Port, Sudanese peanuts of good quality are priced around $8,300, depending on quality. The average price for first-grade peanut oil stands at 14,800 RMB/mt.

DEMAND & SUPPLY

China

Sowing increase 15% at least in some main production provinces.

Argentina

Yields are very good, exceeding historical averages. Some lots show excellent production, while others have lower yields.

Brazil

Currently off-season; plantings start in October, with a projected 5-7% area increase for the peanut crop.

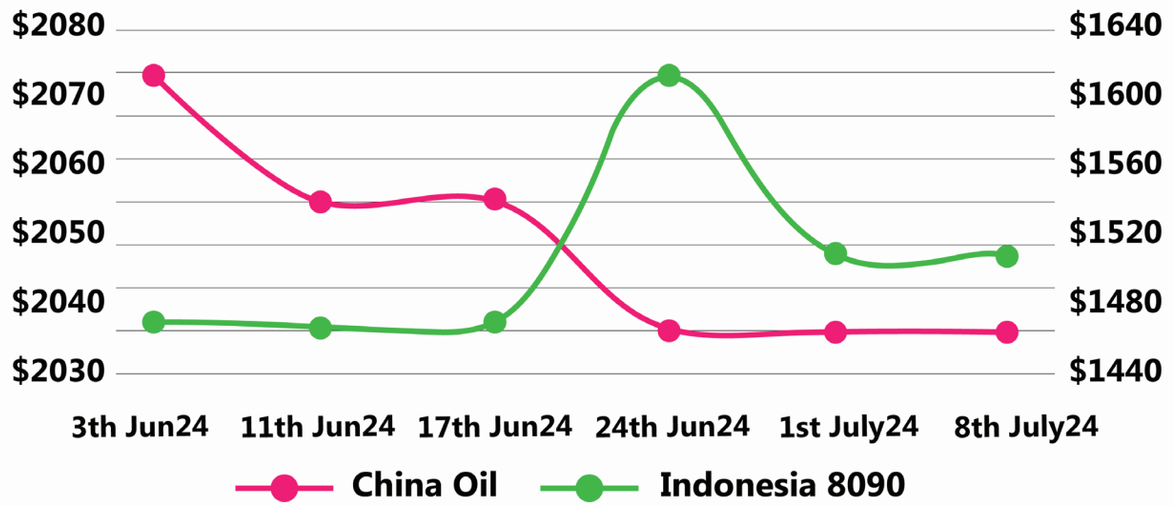
India

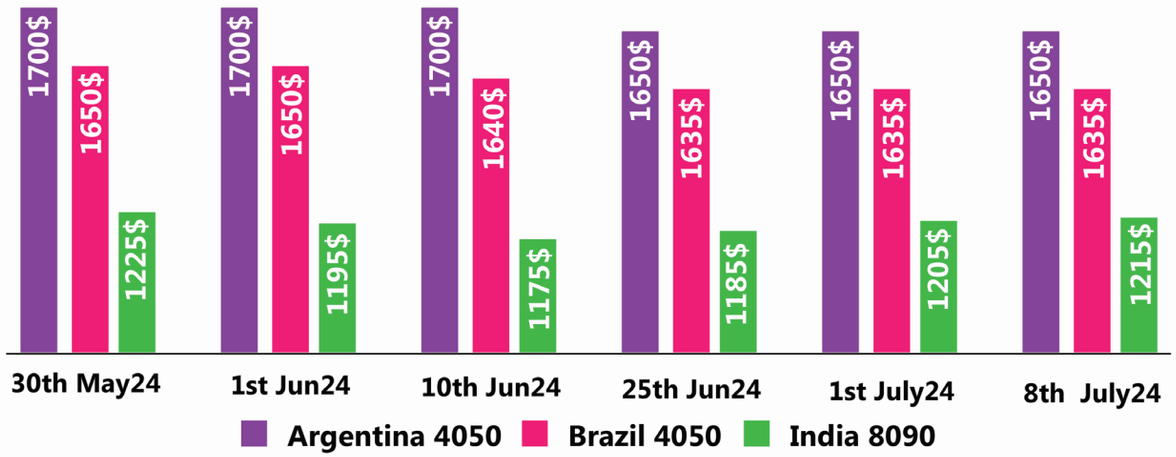
Peanut sowing in Gujarat is strong in competition with other crops.

Indonesia

Peanuts sowing done with a harvest expected between September and October.

Peanut Price Trend





WEATHER IMPACT

China

July 15th starts widely heavy rain in Henan and Shandong Provinces which gives flood prospective.

Argentina

Very cold weather with intense frosts, yet yields and quality of peanuts remain excellent.

India

Good and adequate rainfall in Karnataka, Gujarat seen in July.

Indonesia

Expect less rain this year due to El Niño, but it's just a prediction.

Current Crops

ARG — **Argentina**

Harvest in completion mode with high frost and record yields. Weather dropped to 6-8° below zero.

ARG 3842 $1590

BRZ — **Brazil**

BRZ 4050 $NA

CHI — **China**

New crop planting has increased by 10-15%, but the yield may be negatively impacted by the weather.

CHI 4151 $1370

IND — **India**

Strong sowing in peanut winning over Cotton acreage, supportive weather so far.

IND 5060 $1275

MOZ — **Mozambique**

MOZ 8090 $1125

TAN — **Tanzania**

TAN 8090 $1000

USA — **U.S.A**

USA 4050 $NA

PEANUT VOICE

"I've been in the peanut business for 15 years. I grade peanuts and supply them to oil factories."

Mr. Gao Bao Jie

HongYuan Peanut Grading

Do you see AI (artificial intelligence) taking over in the raw peanut processing industry?

I have heard news about AI taking over vehicle and machinery manufacturing, but I haven't heard much about its use in the agriculture product business. I suppose our agricultural product profits are too low to justify such high-cost technology. My grading factory machines are very affordable and already produce accurately graded peanuts. I don't think any AI machine can match the price and efficiency of these traditional machines.

Battlefield Basics: Peanut Butter and America's Armed Forces

Battlefield Basics: Peanut Butter and America's Armed Forces
Did you know that the U.S. military has a long history of providing peanut butter in its rations? Since World War I, soldiers have been issued one-and-a-half ounce cans of creamy peanut butter as part of their field rations. This practice continued through World War II, the Korean War, and the Vietnam War, highlighting peanut butter's role as a reliable source of nutrition and energy for troops in various combat and operational settings. Interestingly, it was during World War II that the U.S. Army popularized the peanut butter and jelly sandwich among soldiers, recognizing its convenience and high nutritional value during maneuvers and long missions. Today, peanut butter remains a crucial component of military rations, ensuring that soldiers have access to a nutritious and familiar food item in challenging environments.

OPTIMIZING GROUNDNUT CULTIVATION

A SUSTAINABILITY

PRACTICES GUIDE FOR FIELD SELECTION & LAND PREPARATION

Discover best practices for selecting ideal soil and effective land preparation techniques to boost groundnut yields sustainably.

IDEAL SOIL FOR GROUNDNUT

For successful groundnut cultivation, selecting the right soil is crucial. Groundnuts flourish in well-drained, light-coloured soils with a sandy or loamy texture. The soil should crumble easily when rubbed between your fingers, indicating a good structure for crop growth. Avoid planting groundnuts in the same field consecutively, as this can lead to a buildup of diseases and pests, impacting yield and quality. Instead, practice effective crop rotation by alternating groundnuts with cereal crops every two years. This rotation helps leverage residual nutrients from previous crops and reduces disease pressure, ultimately contributing to improved groundnut yields and reduced disease control costs.

Soil Texture: Choose sandy or loamy soil that is well-drained and light-coloured, ensuring the soil structure promotes healthy root development.

Crop Rotation: Implement a rotation system with cereal crops every two years to mitigate disease build-up and enhance nutrient availability.

RAISED BED AND FURROW SYSTEM

The raised bed and furrow system offers significant advantages, particularly for clayey soils in high-rainfall areas. This system involves constructing raised beds that are 1.2 meters wide and 15 cm high, with two 30 cm wide furrows for effective drainage. This setup significantly enhances root growth, aeration, and reduces weed problems, leading to healthier crops. Additionally, it has been shown to increase yields by 8-23%, reduce seed and water usage by 25-30%, and improve net profits compared to traditional flatbed sowing methods. The raised bed and furrow system is a highly effective method for managing water efficiently and maximizing economic returns from groundnut cultivation.

KEY INSIGHTS

- Select well-drained, sandy, or loamy soil to ensure optimal growth conditions for groundnuts.
- Employ effective tillage and raised bed techniques to maximize growth and yield.
- Utilize the raised bed and furrow system to enhance water management, reduce resource usage, and increase profitability.

EFFECTIVE LAND PREPARATION TECHNIQUES

Proper land preparation is essential for achieving high groundnut yields. Avoid continuous groundnut planting to prevent disease build-up and soil degradation. Conventional tillage generally provides better results compared to conservation tillage, as it allows for deeper soil aeration and better seedbed preparation. Achieving a fine tilth with a depth of 15-20 cm is optimal for groundnut cultivation. Additionally, planting on raised beds with a gentle slope of 0.4-0.8% ensures efficient drainage, reduces soil compaction, and facilitates easier field operations. Raised beds enhance water-use efficiency by reducing evaporation losses and providing a well-aerated root zone, which is critical for optimal growth and development of groundnuts.

Tillage Method: Conventional tillage is preferred for its effectiveness in soil aeration and seedbed preparation over conservation tillage.

Raised Beds: Implement raised beds with a 0.4-0.8% slope to optimize drainage, reduce soil compaction, and improve water-use efficiency.

BIRD FEED

In the realm of bird feeding, it is crucial to offer a diverse range of peanut-based treats to attract a variety of avian visitors. Products like peanut butter, suet, fat balls, and peanut cakes are designed to provide essential nutrients and energy, supporting birds' health and vibrancy. Understanding the significance of these nutrient-packed options allows us to create an inviting environment for birds, promoting biodiversity and the pleasure of birdwatching in our own backyards.

From Farm Harvest to Bird Feed, Manufacturers Craft These Perfect Peanut Treats

1 PEANUT BUTTER

Peanut butter for bird feed blends peanuts with seeds or fats, offering a high-calorie, nutrient-rich food. Typically ground with additives like cornmeal, oats, or vegetable fats, it attracts birds like woodpeckers, blue jays, and nuthatches. Log feeders with filled holes provide these birds a convenient perch for enjoying their treat.

2 FAT BALLS

Fat balls are high-quality treats for garden birds, rich in fat with no added lime, and include chopped peanuts, black sunflower seeds, cereals, seeds, and oils for essential energy. Their unique composition keeps them soft in cold weather and water-repellent in all conditions, ideal for bird tables and ground feeding year-round.

3 PEANUT SUET PELLETS

Suet pellets provide garden birds with high-energy ingredients in a convenient granular form. They contain peanut flour, wheat flour, beef fat, wheat starch, and a touch of insect powder, ideal for feeding through mesh feeders, feeder houses, bird tables, or scattered on the ground, especially enjoyed by soft food-loving birds like robins.

4 PEANUT CAKE

The Peanut Cake, in squares or cubes, is an energy-rich treat for garden birds, blending hearts and red maize, enhanced with seeds, insects, and fruits. Loved by tits, finches, woodpeckers, Nuthatches, Treecreepers, Goldcrests, and Robins, it's formulated from animal and vegetable fats with peanut flour, ideal for hanging, pole-mounting, or chopping for smaller species like Dunnocks, Wrens, and Blackbirds.

5 KIBBLED PEANUT

Kibbled Peanuts offer a nutritious, natural snack enjoyed by a variety of birds, including Blackbird, Song thrush, Chaffinch, and can be easily fed through tube feeders, feeder houses,bird tables, or directly on the ground.

6 KIBBLED PEANUT HEARTS

Kibbled peanuts shaped like hearts, combined with sunflower seeds, provide high-calorie delights that are beloved by numerous species of garden birds. These specially prepared peanuts ensure safety for young birds, eliminating any risk of choking on whole nuts.

7 BLANCHED SPLITS PEANUT

These blanched peanuts, meticulously prepared—peeled, blanched, and halved—keep feeders clean. Free from brown skins and contaminants, they are a safe, clean, nutritious choice for woodpeckers, jays, and chickadees. Offered in mesh, tube, hopper, platform, and wire cage feeders, they cater to diverse backyard bird species

8 PEANUT KERNELS

Peanut kernels are favored by finches and sparrows. Mesh feeders with small openings, tube feeders with multiple ports, hopper and platform feeders, and wire cage feeders that deter larger animals, all provide convenient feeding options for small to medium-sized birds.

9 PEANUT SEED MIX

The Peanut Seed Mix combines top-quality peanuts, seeds, and grains like Hulled Oats, Sunflower, Canary Seed, Wheat, Whole Maize, Linseed, and more, providing essential nutrients and energy for garden birds. Loved by species including tits, finches, sparrows, Alexandrine Parrots, Rock Pigeons, and Doves, it's perfect for feeding on tables or directly on the ground.

10 PEANUT IN-SHELLS

Loved by jays, woodpeckers, and cardinals, in-shell peanuts provide natural foraging and nutrition. Mesh Peanut Feeders secure them for birds with strong beaks, while Platform Feeders offer easy filling and cleaning, attracting a variety of birds.

ADVANCEMENTS IN HERMETIC STORAGE FOR PEANUTS

PICS BAGS PROVE EFFECTIVE IN MITIGATING AFLATOXIN CONTAMINATION AND PRESERVING QUALITY

A groundbreaking study has unveiled promising results in the hermetic storage of shelled peanuts using Purdue Improved Crop Storage (PICS) bags. Hermetic storage, characterized by low oxygen environments, has long been employed to preserve various commodities, including corn, cowpea, cocoa, coffee, and rice. However, its application to peanuts or groundnuts has yielded inconsistent outcomes until now.

The study aimed to determine the effects of hermetic storage on aflatoxin contamination, seed germination, and oil chemistry in shelled peanuts over 12 months. Researchers conducted a comprehensive 2 x 4 factorial study involving both normal and high oleic peanuts with two initial moisture contents and four storage treatments. These treatments included burlap bags (control), PICS bags, PICS bags with air extracted by vacuum, and PICS bags with chlorine dioxide (ClO2) sachets.

Stored at temperatures above 21°C, the initial seed germination rates for normal and high oleic peanuts were 77% and 80%, respectively. Initial aflatoxin concentrations in all peanut samples were less than 2 micrograms per kilogram (µg/kg). The storage bags were periodically opened, sampled, and resealed at intervals of 60, 159, 249, and 301 days.

The results were telling. Approximately half of the 12 burlap bags sustained significant rodent damage, with all showing notable infestations by Indian meal moths (Plodia interpunctella). In stark contrast, only four PICS bags exhibited rodent damage, which was limited to the outer polypropylene layer, and none showed live insect presence.

Interestingly, seed germination rates fell across all samples, averaging 6.3% by the end of the storage period. Peanuts stored in burlap bags demonstrated an average germination rate of 19.2%, significantly higher than the 2.1% observed in PICS bags. Despite the decline in germination, the PICS bags demonstrated remarkable efficacy in reducing aflatoxin contamination.

PICS 3
Purdue Improved Crop Storage

One burlap bag containing normal oleic peanuts recorded an aflatoxin concentration of 75 µg/kg, while one PICS bag with high oleic peanuts showed 12 µg/kg. All other samples had aflatoxin levels below the detectable limit of 2 µg/kg, underscoring the superiority of PICS bags in mitigating aflatoxin risk.

This research has significant implications for the storage and preservation of shelled peanuts. Aflatoxin contamination is a major concern for peanut producers and consumers due to its potential health hazards. The ability of PICS bags to keep aflatoxin levels within safe limits presents a compelling case for their adoption in the peanut industry.

Image of the peanut comparing peanuts stored in PICS bags on 21 Mar 2018 after 159 days of storage. Peanuts with a white/Green mold (left) versus peanuts with no mold (right)

PEANUT SCIENCE

Moreover, the reduction in pest infestations and rodent damage in PICS bags highlights their practical advantages over traditional burlap storage. Although seed germination rates were lower in PICS bags, this is a trade-off that many might find acceptable given the enhanced safety and extended shelf life of the stored peanuts.

The study's findings advocate for the broader application of PICS technology in peanut storage. By ensuring lower aflatoxin levels and protecting against pests, PICS bags can play a crucial role in improving the safety and quality of peanuts. This could lead to better marketability and consumer confidence in peanut products.

Overall, the research underscores the potential of hermetic storage, particularly using PICS bags, to revolutionize peanut storage practices. As the peanut industry seeks to enhance product quality and safety, these findings provide a robust foundation for adopting innovative storage solutions that safeguard both health and profitability.

Source: Butts, C. & Dean, L. & Hendrix, K. & Arias De Ares, R. & Sorensen, R. & Lamb, M., (2021) "Hermetic Storage of Shelled Peanut Using the Purdue Improved Crop Storage Bags1", Peanut Science 48(1), p.22-32. doi: https://-doi.org/10.3146/PS20-31.1