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ARTICLE

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AGRICULTURE
PREVIEW

JANUARY 2024





TIAST Group, originating from China has been in existence for over 30 years and has extended its services to West Africa with the sole purpose of adding value to the agriculture value chain and promoting the worth of the agricultural industry in Ghana. Through localization and standardization, we are devoted to adding value to the agricultural chain and boosting the agricultural industry's worth in all African countries. Our business scope includes designing, manufacturing, installation and maintenance of agricultural processing machinery. These machines are designed to process a variety of agricultural goods, including tubers like cassava and sweet potato, etc. rubber processing, fibre extraction and processing from sisal and pineapple leaf, and agricultural machinery for planting, harvesting, and other tasks. We also provide financial leasing for our agricultural processing factories through our partnership with Banks which supports up to 70-80% of the total cost of the entire project. This lease is spread out in a 5-year term of payment which is convenient after the project starts running.

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Sow What? When?

By Prince Opoku Dogbey

In the intricate tapestry of agriculture, the decisions regarding what to sow and when are critical threads that weave together the success of a harvest. These decisions are not arbitrary; they require a nuanced understanding of local climates, soil health, and the unique characteristics of each crop. As farmers embark on the delicate dance of planting, they must synchronize their actions with the rhythm of the seasons.

One of the primary considerations is the local climate and its seasonal variations. Recognizing the dynamic nature of weather patterns is paramount for selecting the right crops at the right time. In the vernal embrace of spring, the stage is set for cool-season crops such as peas, lettuce, and spinach to flourish.

Conversely, as the sun asserts its dominance in summer, the time becomes ripe for warm-season plants like tomatoes, corn, and peppers. The timing of planting is an art that, when mastered, aligns the farmer's efforts with the optimal conditions for crop development.

Soil health is the bedrock upon which successful cultivation stands. Before sowing, a judicious evaluation of soil quality and nutrient levels is essential. Different crops have distinct soil preferences, and farmers must adjust pH levels and incorporate fertilizers accordingly. The practice of crop rotation becomes a crucial strategy, not only preserving soil fertility but also mitigat-

ing the risks of pests and diseases.

Understanding the growth habits of various crops is equally pivotal. Some plants, like carrots and radishes, thrive when sown directly into the soil, while others, such as tomatoes and peppers, benefit from early starts indoors before being transplanted. This tailored approach optimizes space, ensures resource efficiency, and fosters the development of robust, healthy plants.

Modern technology has bestowed farmers with invaluable tools and applications that provide real-time data on weather conditions, soil composition, and optimal planting times. Armed with this information, farmers can make informed decisions, elevating precision and efficiency in their agricultural practices.

In conclusion, the age-old wisdom encapsulated in the phrase "sow what and when" remains a guiding principle in agriculture.

By harmonizing crop choices with seasonal rhythms, adapting to soil conditions, and leveraging technology, farmers can navigate the complexities of cultivation, maximize yield, promote sustainability, and secure a bountiful harvest for generations to come.



Horned Melon

By Mavis Essaba Mensah

Origin

The Horned Melon, also known as Kiwano, originates from the Kalahari Desert in Africa. This spiky, orange-skinned fruit belongs to the cucumber and melon family, and its peculiar appearance sets it apart in the world of exotic fruits.

Description

Horned Melon boasts a distinctive appearance with its bright orange, spiky exterior resembling small horns or spikes, hence its name. When cut open, the fruit reveals a vibrant green, jelly-like interior filled with seeds. The taste is a unique blend of tartness and mild sweetness, making it a flavorful addition to various culinary creations. While its flavor is captivating, the Horned Melon's texture and appearance make it an intriguing choice for garnishes, salads, or exotic fruit bowls.

Health Benefits

1. Rich in Nutrients: Horned Melon is a nutrient powerhouse, containing essential vitamins and minerals. It is particularly high in vitamin C, providing a significant boost to the immune system. Additionally, it contains potassium, dietary fiber, and antioxidants, contributing to overall health and well-being.

2. Hydration Support: With its high water content, Horned Melon serves as a hydrating fruit. Staying well-hydrated is essential for various bodily functions, including skin health, digestion, and temperature regulation.

3. Antioxidant Properties: The fruit's vibrant green pulp is indicative of its antioxidant content. Antioxidants help combat oxidative stress in the body, potentially reducing the risk of chronic diseases. The presence of these compounds in Horned Melon makes it a valuable addition to a balanced diet, promoting cellular health.

In summary, the Horned Melon, originating from the Kalahari Desert, offers a visually captivating and uniquely flavored experience. Beyond its exotic appeal, it contributes to a well-rounded diet by providing essential nutrients, supporting hydration, and offering antioxidant benefits.



Ghana's strategies to combat methane emissions

By Prince Opoku Dogbey

In a bold move to combat climate change and enhance public health, Ghana is spearheading initiatives to curtail methane pollution in agriculture and waste management.

This aligns seamlessly with the nation's climate plan, aiming to bolster air quality, unlock carbon finance, and generate employment opportunities.

Ghana is employing the Alternative Wet and Drying (AWD) strategy in rice farming, a pioneering technology designed to minimize methane emissions. Methane, a potent greenhouse gas, contributes to global warming and air pollution. AWD technology disrupts conventional rice farming practices by promoting intermittent flooding rather than continuous flooding, offering an eco-friendly approach aligned with global efforts to reduce methane, the second-most prominent greenhouse gas.

Dr. Daniel Tutu Benefoh, Ghana's Focal Person for the United Nations Framework Convention on Climate Change, emphasized the importance of mitigating methane's impact. The AWD project not only presents a sustainable technology but also aims to financially compensate around 11,000 farmers, boosting yields by approximately 30% while enhancing water management practices.

In addition to AWD, Ghana is pioneering the "Integrated Waste Recycling and Composting for Methane Reduction in Ghana." This initiative targets five landfills, producing organic fertilizer for crop production. The project, a first in Africa and second globally under Article 6 of the Paris Agreement, is set to reduce over 1.5 million tonnes of methane by 2030, creating jobs and fostering a circular economy.

These strategies, falling under Article 6.3 of the

Paris Agreement and Article 5.1 of the Cooperation Agreement between Ghana and the Swiss Confederation, showcase Ghana's commitment to sustainable practices. With a significant portion of Ghana's Municipal Solid Waste composed of organic materials, these initiatives not only mitigate climate change but also address health risks associated with methane pollution.

As Professor Kofi Amegah, an Epidemiologist, affirms, reducing methane levels is crucial for public health. Ghana's strides towards cleaner air and a healthier environment exemplify its dedication to addressing the global climate crisis while safeguarding the well-being of its citizens.



Belarusian Agricultural Technologies Garnering African Interest

By Nana Ama Oforiwaa Antwi

Belarus' Agriculture and Food Minister, Sergei Bartosh, has highlighted the growing interest of African nations in Belarusian agricultural technologies. In an interview with ONT TV channel, Bartosh emphasized Africa's agricultural focus and the potential for fruitful collaboration.

"Africa is primarily focused on the development of agriculture. This is a priority. There are good lands there that yield good harvests. True, African landscape is characterized by terrain irregularities, there are no vast stretches of plain land as we have here. Yet, they have a warm climate throughout the year, and you can harvest crops up to four times a year, and this is important," explained Bartosh.

Driven by the imperative to ensure food security, African countries, including Equatorial Guinea, are exploring closer ties with Belarus, particularly in technology exchange. The collaboration aims to cultivate land and cultivate various crops, with a focus on potatoes, vegetables, and corn. The partnership involves training specialists, providing equipment, seeds, and sharing expertise on the use of mineral fertilizers.

Bartosh outlined specific plans with Equatorial Guinea, where Belarus will host specialists for training, set up a laboratory, and assist in various aspects of agricultural development. The intention is to establish Equatorial Guinea as a regular consumer of Belarusian agricultural products.

Additionally, Belarus is engaging in collaborations with Zimbabwe, contributing to their success in grain exports. Talks are underway for the potential export of milk powder, with discussions about constructing a new plant for milk powder recovery and dairy product manufacturing.

Belarusian agricultural technologies are gaining recognition on the African continent, fostering international partnerships that contribute to agricultural development, technology transfer, and food security initiatives.



USDA PROJECTS 61% INCREASE IN GLOBAL CROP CALORIES BY 2050

In a recent report, the United States Department of Agriculture Economic Research Service (USDA ERS) has unveiled projections outlining the escalating demand for crop calories to sustain the global population in 2050.

By Prince Opoku Dogbey

The study, categorized by varying population growth scenarios, highlights the imperative need for a substantial increase in food production to meet the nutritional requirements of an expanding world.

Under a low population growth scenario, with a projected global population of 8.73 billion by 2050, ERS researchers anticipate a 33% surge in food production, reaching 12,740 trillion crop calories from a 2011 baseline.

The stakes rise under a medium population growth scenario, envisioning a population of 9.75 billion, where a 47% increase to 14,060 trillion crop calories is deemed necessary. In the most challenging scenario, with a high population growth projection of 10.8 billion, the USDA projects a staggering 61% rise to 15,410 trillion crop calories.

Crop calories, defined as the total calories available from crops, serve as a fundamental measure of global agricultural capacity. Whether directly consumed or utilized in the production of meat, dairy products, and eggs, these

calories are crucial for sustaining an increasingly affluent and growing global population.

The caloric estimates factor in rising per capita incomes worldwide, suggesting that as incomes increase, people are likely to augment both their overall daily calorie intake and their consumption of animal products.

As the world grapples with the complex challenge of feeding an ever-expanding population, these projections underscore the pressing need for strategic and sustainable approaches to global agriculture in the coming decades.



Reducing Methane Emissions in Agricultural Production

By Prince Opoku Dogbey

Methane emissions from agricultural activities contribute significantly to greenhouse gas levels, exacerbating global climate change. As the demand for food grows, finding sustainable solutions becomes paramount. Here are key strategies to reduce methane emissions in agricultural production.

1. Improved Livestock Management:

Livestock, particularly cattle, are major methane emitters. Implementing better livestock management practices can significantly reduce emissions. Techniques such as optimized feeding, dietary supplements, and improved breeding methods can enhance digestion efficiency, thereby lowering methane production.

2. Alternative Feeding Strategies:

Exploring alternative animal feeds that are methane-reducing is crucial. For instance, including high-quality forages and feed additives like seaweed can mitigate methane emissions. Ongoing research is examining the effectiveness of these alternatives in maintaining livestock health while minimizing environmental impact.

3. Precision Farming:

Adopting precision farming technologies can optimize resource use and reduce methane emissions. These technologies include sensor-based systems, data analytics, and

automated machinery. By precisely managing irrigation, fertilization, and pesticide application, farmers can enhance productivity while minimizing environmental impact.

4. Methane-Capturing Technologies:

Innovative technologies designed to capture and utilize methane emissions present promising solutions. Methane digesters can capture emissions from manure and convert them into energy for on-farm use. Additionally, biogas systems can provide renewable energy sources while reducing the overall carbon footprint of agricultural operations.

5. Wetland and Water Management:

Certain agricultural practices contribute to increased methane emissions from wetlands. Implementing effective water management strategies, such as controlled flooding and drainage, can help mitigate these emissions. Balanced water levels and reduced waterlogged conditions can limit methane release.

In conclusion, reducing methane emissions in agricultural production demands a multifaceted approach. By integrating advanced technologies, alternative practices, and innovative solutions, the agriculture sector can play a pivotal role in mitigating climate change.



Juice Extractors

By Emmanuel Bondzie-Quaye



In the world of kitchen appliances, the humble juice extractor stands as a simple yet essential machine dedicated to bringing forth the pure essence of fruits and vegetables. Its straightforward design and functionality make it a beloved companion for health enthusiasts and home cooks alike.

At its core, a juice extractor is a straightforward machine designed with a singular purpose - to extract juice from fresh produce. The uncomplicated mechanism typically involves a spinning blade or auger that breaks down the fruits or vegetables, separating the liquid from the pulp.

The charm of a juice extractor lies in its ease of use. Operating the machine usually involves placing the

prepared fruits or vegetables into the designated chute and activating the extraction process. The simplicity of this operation makes it accessible for users of all skill levels, encouraging a wider embrace of homemade juices.

Juice extractors maintain a laser focus on freshness. By swiftly converting whole fruits and vegetables into liquid form, they ensure that the nutritional goodness is preserved without the need for additives or preservatives. This commitment to freshness aligns with contemporary preferences for healthier and minimally processed food options.

While the concept is simple, juice extractors exhibit versatility in accommodating various fruits and vegetables. From citrus fruits like oranges and lemons to leafy greens and hard vegetables, this uncomplicated machine allows users to experiment with different combinations, fostering creativity in juicing.

In the spirit of user-friendly design, many juice extractors prioritize easy cleanup. Removable parts are often dishwasher-safe, and the disassembly process is typically intuitive, ensuring that the post-juicing cleanup is as hassle-free as the juicing process itself.

In essence, the simplicity of a juice extractor doesn't compromise its significance in the kitchen. It stands as a symbol of efficiency, freshness, and a delightful simplicity that enhances the joy of extracting nature's liquid bounty at home.



Starting a Plantain Farm

By Prince Opoku Dogbey

Hello there, have you embarked on a plantain farming adventure? Well, grab your gardening gloves and let's dig into what you need to do before turning that green dream into a reality.

First things first, scout your land like a seasoned explorer. Plantains love sunlight, so pick a spot basking in its warmth. Check the soil—it should be well-draining and nutrient-rich. Think of it as a cozy home for your soon-to-be thriving plantain family.

Now, let's talk varieties. Plantains come in different shapes and sizes, each with its own flavor profile. Are you into the sweet type or the starchy goodness? Choose wisely because your taste buds will thank you later.

Time to roll up those sleeves and get your hands dirty—literally. Plantain farming is not just about planting; it's about creating a haven for your green buddies. Prepare the soil by adding compost or organic matter. Think of it as a spa treatment for the soil.

Water, water, water! Plantains are thirsty fellas. Set up an irrigation system or plan your watering routine, especially during dry spells. Happy plants mean happy farmers.

Last but not least, connect with fellow plantain enthusiasts. Join forums, attend workshops, and soak up all the plantain wisdom you can find. Learning from others is like having a cheat code for your farm game.

Revamping Rice Production in Africa

By Kwabena Baiden

Revamping rice production in Africa is crucial for ensuring food security and economic development across the continent. With a rapidly growing population and increasing urbanization, the demand for rice, a staple in many African diets, has surged. To meet this demand and enhance agricultural sustainability, several key strategies can be implemented.

Firstly, investing in modern agricultural technologies is essential. Introducing efficient irrigation systems, mechanized farming equipment, and advanced crop management techniques can significantly boost rice yields. This not only increases productivity but also reduces the labor intensity traditionally associated with rice cultivation, attracting a younger generation of farmers.

Moreover, promoting research and development in rice varieties that are well-suited to the diverse African climates is crucial. Developing drought-resistant, pest-tolerant, and high-yielding rice strains can mitigate the impact of climate change and improve overall crop resilience. Collaborative efforts between governments, research institutions, and international organizations can accelerate progress in this area.

Another critical aspect is the adoption of sustainable farming practices. Implementing agroecological approaches, such as organic farming and integrated pest management, can minimize environmental impact while maintaining soil fertility. These practices contribute to the long-term viability of rice farming systems, preserving ecosystems and biodiversity.

Furthermore, strengthening farmer education and extension services is vital. Providing farmers with access to knowledge about best practices, market trends, and financial management enhances their ability to make informed decisions. Training programs can empower farmers to embrace innovative techniques and adapt to changing agricultural landscapes.

Government support is paramount in this endeavor. Offering incentives, subsidies, and infrastructure development can encourage smallholder farmers to adopt modern practices. Establishing efficient supply chains and storage facilities ensures that harvested rice reaches markets promptly, reducing post-harvest losses and benefiting both farmers and consumers.

In conclusion, revamping rice production in Africa demands a multi-faceted approach that integrates technology, research, sustainability, education, and government support. By prioritizing these strategies, African nations can not only meet the increasing demand for rice but also build a resilient and sustainable agricultural sector, promoting economic growth and food security.



The Secret Sounds of Plants

Plants produce ultrasonic clicks that are beyond the range of human hearing. Research suggests that these sounds may play a role in communication between plants and even with insects.



Italian eggplant is rich in antioxidants, such as nasunin, which may help protect cells from free radical damage.

2024 Global Agriculture Preview

By Prince Opoku Dogbey

As we stand on the cusp of a new year, the global agricultural landscape is poised for significant transformations in 2024. A strategic and forward-thinking approach is imperative to address the challenges presented by climate change, economic uncertainties, and the need for sustainable food production. In this global preview, we outline five key areas that demand attention to secure a thriving future for agriculture.

Improvement of Irrigation Infrastructure and Technology

In the face of unpredictable weather patterns and escalating climate change impacts, the enhancement of irrigation infrastructure and technology emerges as a cornerstone for agricultural resilience. Advanced irrigation systems, such as precision farming and sensor-based watering, can optimize water usage, mitigating the effects of drought and ensuring consistent crop yields. Investing in these technologies will not only safeguard food production but also contribute to water conservation, a critical aspect of sustainable agriculture.

Intense Financial Support into Agriculture

Recognizing the pivotal role of agriculture in economic stability and food security, 2024 demands a substantial increase in financial support for the agricultural sector. Governments and international organizations must collaborate to provide farmers with access to affordable credit, insurance, and subsidies. Financial incentives for adopting sustainable farming practices will encourage environmentally friendly methods and ensure the livelihoods of millions of farmers. This injection of funds will act as a catalyst, propelling agricultural communities towards prosperity.

Allocation of Substantial Amount of Country's Annual Budget to Agriculture

The allocation of a significant portion of a country's annual budget to agriculture is not just a monetary commitment but a strategic recognition of agriculture's vital role in national development. This financial commitment will facilitate infrastructure development, research, and the implementation of innovative farming techniques. As nations earmark a substantial budget for agriculture, they empower farmers, strengthen rural economies, and fortify the foundation of their food systems.

Skills Training and Youth Development

Empowering the next generation of farmers is critical to the sustained growth of agriculture. Investing in skills training programs and fostering youth development in rural areas can inject fresh perspectives and innovation into the sector. By equipping young farmers with modern agricultural techniques, business acumen, and technological skills, we not only ensure the succession of farming traditions but also pave the way for a dynamic, technology-driven agricultural landscape.

Value Addition to Crops

Beyond mere cultivation, the emphasis should shift towards adding value to crops. Processing, packaging, and marketing agricultural products locally and internationally can significantly increase the income of farmers. Governments and private entities should collaborate to es

tablish agro-processing industries, creating a ripple effect of economic growth in rural areas. Value addition not only enhances the economic viability of farming but also positions agriculture as a dynamic and attractive sector for investors.



HORNED MELON MOJITO JUICE

By Prince Opoku Dogbey

INGREDIENTS

2 Horned Melons (Kiwano) | Fresh mint leaves
Lime juice (1-2 limes) | Sweetener of choice (sugar, agave syrup, or honey) | Ice cubes

INSTRUCTIONS

1. Cut the Horned Melons in half and scoop out the green, jelly-like pulp.
2. Place the Horned Melon pulp in a blender.
3. Add a handful of fresh mint leaves to the blender.
4. Squeeze the juice of 1-2 limes into the mixture.
5. Sweeten to taste with your preferred sweetener.
6. Blend until smooth.
7. Strain the mixture to remove seeds and pulp, if desired.
8. Pour the juice over ice cubes in a serving glass.
9. Garnish with a sprig of fresh mint.
10. Stir well and savor the unique and re-freshing Horned Melon Mojito Juice!

USDA Predicts More Sugar in the US, 5% Drop in Mexico for 2023-24

By Nana Ama Oforiwaa Antwi

In its latest World Agricultural Supply and Demand Estimates (WASDE) report released on January 12, the US Department of Agriculture (USDA) has unveiled significant shifts in the sugar market for the 2023-24 period.

The report highlights changes in sugar production, imports, and ending stocks for both the United States and Mexico.

The USDA forecasts a notable 5% decrease in Mexico's sugar pro-

duction for the upcoming year, with an estimated production of 5,016,000 tonnes, the lowest since the 2009-10 season. Despite the lower production, Mexico's ending stocks remain steady at 900,000 tonnes.

This decline is anticipated to be offset by higher imports, reaching 510,867

tonnes, and a decrease in exports to 814,000 tonnes.

Contrastingly, the United States is expected to experience a surge in domestic sugar production, reaching a record-high of 9,391,000 short tons, raw value, for the 2023-24 period. The increase is attributed to higher cane sugar production, particularly in Louisiana, and a record beet sugar production of 5,407,000 tons.

Imports are also projected to rise, with a forecast of 3,310,000 tons, including a record 575,000 tons in high-duty imports.

The forecasted changes in production and imports contribute to an upswing in the ending stocks-to-use ratio for the United States, rising from 12.8% in December to 13.7% for 2023-24. The only notable change in sugar use is in exports, which are expected to increase by 60%, mainly due to higher exports to Mexico.

These projections have implications for the global sugar market, as Mexico's reduced production may influence the overall supply chain. With the United States set to achieve record-high domestic production, there could be potential shifts in trade dynamics and market prices.

As the agricultural landscape evolves, stakeholders in the sugar industry will closely monitor how these forecasts materialize and whether they will impact international sugar markets. The USDA's WASDE report serves as a key indicator for industry players, policy-makers, and consumers alike.

This forecast provides valuable insights into the dynamics shaping the sugar industry in North America, paving the way for informed decision-making among market participants.



A Farmer's Yuletide

In winter's hush, 'neath frosty sheen,
A Christmas tale in fields serene.

With evergreen and snow aglow,
In agriculture's heart, joy we sow.

Barns adorned, a festive sight,
Where farmers tend to flocks at night.
Beneath the stars, a sacred vow,
Christmas whispers to the plow.

In furrows deep, a hopeful gleam,
A Christmas harvest, a cherished dream.
Trees adorned with festive grace,
Nature sings in yuletide embrace.

A stable's hush, a manger's lore,
A humble gift, forevermore.
Cattle low in carols sweet,
Shepherds watch with quiet feat.

So, in fields where memories blend,
A Christmas tale from start to end.
In agriculture's care, love is sown,
A festive spirit deeply known.

— Poem By Jessica Meledi



6 things to know before starting a rubber plantation

By Prince Opoku Dogbey



Rubber is an elastic, waterproof material that is either synthetically produced or extracted from a tree that thrives in warm climates. Latex, a liquid tree sap produced by a number of trees and plants, is used to make natural rubber. The *Hevea brasiliensis* tree produces the majority of the latex.

Required Climate

The humidity level must be around 75% during the 200–300 cm of heavy, evenly distributed rainfall needed for the rubber plantation. The range of 20°C to 35°C is ideal for rubber plant growth. The growth of rubber plants will be halted by freezing temperatures, and regions with strong winds are not suited for growing rubber. Moreover, the plantation needs at least 5 to 6 hours of sunlight each day.

Soil Requirements

Wild vegetation in the main field should be removed, and pits with measurements of 120 cm 45 cm 60 cm should be dug along the contour at appropriate intervals. Typically, 200 to 300 pits are needed for every hectare of land. Row plantation across the slope and along contour lines is advised in steep locations. But make sure to create a patio with a 2 m wide. The type of land affects the rubber plantation. Square plantations work well on flat soil, whereas rectangle plantations are needed on sloped land.

Planting season

The ideal time of year for rubber plantations is from June through July.

Propagation

The three types of budding used in rubber cultivation are green, crown, and brown budding.

Organic Matter Preferably

Organic manure does help rubber plants grow. Each plant pit should have

225 grams of rock phosphate added to it as part of the basal application process. Yet, the fourth year of planting is when this is advised.

Weed Control and Intercultural Operations

In order to control weeds in rubber plantations, weeding is typically done by hand or using chemicals. To control the weeds, chemical herbicides such as Alachor, Simazina, and Diuron should be used.

Intercropping: Is the process of raising two or more crops close to one another. The main objective of intercropping is to increase the yield on a certain plot of land by utilizing resources that would otherwise go unused by a single crop. Adopting intercropping in rubber plantation will generate good revenue. Crops that can be grown as intercrops are ginger, tumeric, vegetables, pineapple or herbal plants.

TODAY'S TIPS

By Jessica Meledi

Prioritize Protective Gear in Agriculture Labs

When working in an agriculture lab, safeguarding oneself with appropriate protective gear is paramount. Ensure that you consistently wear personal protective equipment (PPE) tailored to the specific tasks at hand. This includes, but is not limited to, sturdy gloves, safety goggles, lab coats, and closed-toe shoes.

Gloves shield hands from chemicals, potential cuts, and abrasions, while safety goggles provide essential eye protection against splashes or airborne particles. Lab coats serve as a barrier between the body and hazardous substances, preventing direct contact. Closed-toe shoes offer foot protection, especially in environments where heavy equipment or sharp objects may pose a risk.

Adhering to a strict policy of wearing PPE not only mitigates the likelihood of accidents but also establishes a culture of safety within the agricultural laboratory. Regularly inspect and maintain your protective gear, replacing any damaged or worn items promptly.

By adopting this simple yet crucial safety measure, you contribute to a secure and productive work environment in agricultural labs, promoting the well-being of both yourself and your colleagues.



Growing agriculture with Vertical Farming

By Nana Ama Oforiwaa Antwi

Agriculture is the world's oldest and most adaptable industry which continues to cater for the ever-growing population. However, with the well-known fact about our population constantly increasing, it is no news that humans won't be producing enough to feed themselves.

Coupled with less resources like arable lands and water at our disposal we'd need to come up with innovative and reliable ways to grow our produce and that is where vertical farming comes in. The hanging gardens of the Babylonians, built nearly 2,500 years ago is said to be the first prototype of vertical farming. Vertical farming simply refers to growing upwards, or growing plants on top of each other to maximize growing space rather than horizontally.

Modern day vertical farming is the latest innovation of the Controlled Environment Agriculture; a farming system which looks at growing in spaces where climate change doesn't cause a difference or affect produce. This is because, conditions can be controlled and manipulated, one article likened the process to smart thermostats in modern homes, wherein certain rooms can be set to different temperatures, today's smart farms allow for variations in humidity, temperature, light, and nutrients from area to area within a single farm.

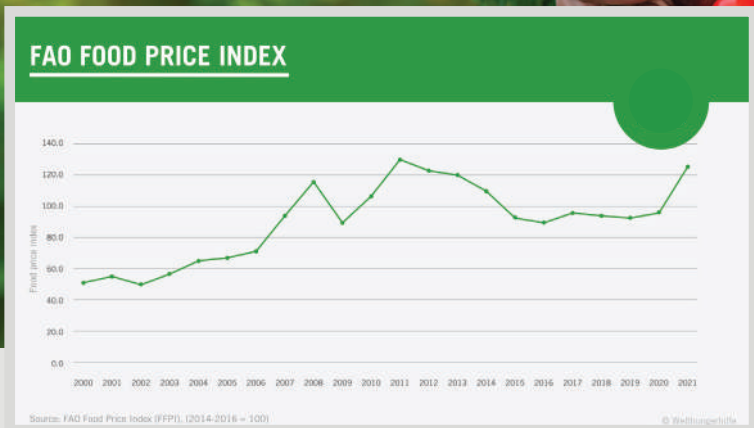
Unlike traditional farming which grows horizontally in the soil and depends on it for all, nutrients, modern day vertical farms do not use soil thus are not subjected to any geographical location, as plants are grown in warehouses. This means no land is deemed unsuitable to support growth and as such, farms are able to accommodate several plants at the same time on the same piece of land since crops grow upward.

In vertical farming, plants can grow hydroponically, which means plants are grown in a water-based solution filled with the required nutrients to foster growth.

They can also be grown aeroponically, where plants are grown vertically, but suspended in air and misted with nutrients-solution or aquaponically, where plants are grown in water with fishes, the fish's waste serve as nutrients for the plants and the plants in turn use that to nourish thereby clearing the water; creating a balanced culture.

Vertical farming alone may not be enough to feed the entire population, but it sure is one of the ways of ensuring planting and cultivating 365 days in a year, and increasing productivity in agriculture.





FAO : rapport du prix des produits alimentaires

Par Yosua Domedjui,

Selon un rapport publié vendredi par l'Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO), les prix alimentaires mondiaux ont diminué de 13,7 % en 2023 par rapport à l'année précédente.

L'indice des prix alimentaires de la FAO, qui suit les variations des prix mondiaux d'un panier de produits de base, montre que les prix des céréales ont diminué de 15,4 % d'une année sur l'autre, "reflétant des marchés mondiaux bien approvisionnés", contrairement à la flambée des prix de 2022 associée au conflit en Ukraine.

L'huile de soja, le blé et le maïs sont en tête de liste.

L'indice FAO des prix du riz a augmenté de 21 % au cours de cette période, principalement en raison des restrictions à l'exportation imposées par l'Inde et des inquiétudes concernant les effets possibles du phénomène climatique El Niño sur la production mondiale, ce qui rend d'autant plus remarquable la baisse des céréales, blé et maïs en tête.

Les huiles végétales connaîtront la plus forte baisse en 2023, soit une diminution de 32,7 % par rapport à 2022. Selon la FAO, "un ralentissement de la demande du secteur du biodiesel et l'amélioration des conditions météorologiques dans les principales zones de culture du Brésil" seront les principales causes de cette baisse en décembre.

Céréales françaises : la restriction de navigation sur la seine

Par Yosua Domedjui,

Le port maritime de Rouen reçoit chaque année 3 millions de tonnes de céréales qui descendent la Seine. 350 000 tonnes par mois, c'est à peu près cela. Intercéréales regroupe des producteurs, des coopératives, des négociants et des premiers transformateurs", explique à l'AFP Jean François Lépy, responsable de la logistique de l'organisation.

La préfecture d'Ile-de-France a décidé de stopper toute navigation sur la Seine "environ sept jours avant la cérémonie d'ouverture" des Jeux Olympiques, le 26 juillet, afin d'assurer la sécurité et de permettre l'installation d'équipements.

Selon la préfecture, la navigation sera interrompue "entre 2h00 et 11h00 pour permettre les épreuves olympiques de natation sur la Seine" pendant "moins de 20 jours", du 27 juillet au 8 septembre, "dernier jour des épreuves paralympiques".

Les producteurs de céréales avaient d'abord craint un arrêt complet : "cela aurait coûté 500 millions d'euros à la filière, avec des coûts supplémentaires pour les sites de stockage, les silos, le transport, la main d'œuvre, etc.", explique Jean-François Lépy, également PDG de Soufflet Négoce, acteur majeur du négoce européen de céréales, pour le compte d'InVivo.

Mais dans le premier producteur et exportateur européen de céréales, même si elle est limitée à sept ou huit jours, la fermeture de la Seine est vécue comme "une catastrophe".

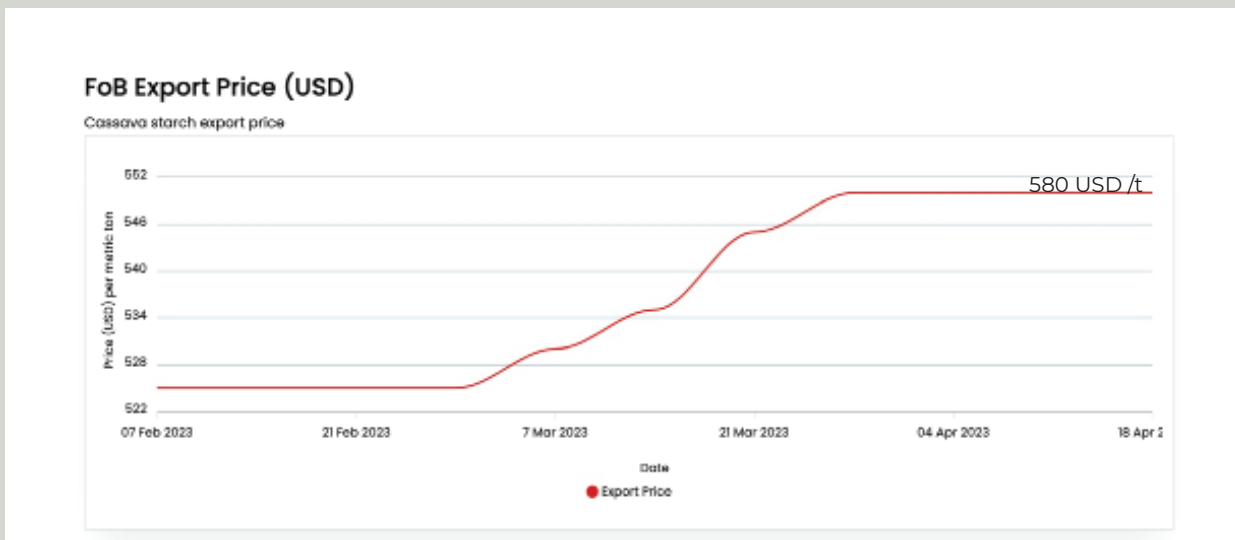
Les premières orges arriveront début juillet, suivies du blé et du colza, puis des premiers tournesols et du maïs fin août/début septembre, les effets du réchauffement climatique avançant chaque année la récolte.

Des montagnes de céréales sont ensuite transportées des fermes vers les ports fluviaux secondaires de Nogent-sur-Marne, Grigny, Melun et Bonneuil, plus en amont sur la Seine. Actuellement, la moitié des exportations françaises de céréales passe par Rouen, le port situé à la tête de l'estuaire, après qu'une noria de petites barges a traversé Paris.

Market Analysis of Cassava Starch In Thailand

The market prices of cassava starch have reduced slightly over the last month. The price ranges from 500-550 US dollars/ton (3,627.80 yuan /ton). This week, the market price of cassava starch in Thailand's tapioca starch quotation is FOB (Bangkok) 495 US dollars/ton (3,788.46 yuan/ton). The starch prices in the domestic cassava starch market are stable. In Thailand, the raw material supply of fresh cassava is stable. The average starch leavening of cassava starch is between 24-28 percent. Thailand is relatively stable, the open factories remain high, and the starch output continues to increase. The speed of cassava starch clearance is still low, and the quotations of traders are slightly confused.

● Thailand Cassava Starch price



Price Factors

Quality of cassava root: Factory owners demand cassava with high starch content for production. Higher starch content would receive a higher price than the lower one. The price WWW offered by the collector is dependent on the quality of the cassava root, specifically, the starch content.

Cost of Labour: Total labour cost including farm labour for the cultivation and harvesting of cassava. The cost of labour during the harvesting period is high as compared to cultivation therefore the cost of harvesting directly affects pricing.

Harvest Yield: There is a high correlation between harvest yield and the price of cassava. The price of cassava is lower when there is a low yield. The lowest prices in June and July can be explained in a similar way but the opposite end. It is noted that the abundance of cassava roots drives the prices down.

Handling and Logistics: The storage and shipping costs from producing areas to importing countries are great determinants of cassava prices. When the shipping and transportation cost of cassava to consumers and industries are high, it affects the retail price of cassava. Cassava farmers bring their harvest to the collectors, where they are responsible for absorbing the cost of transportation from farm to collecting fields.

Harvesting time: The harvesting period is a great determinant for the price of cassava. The abundance and scarcity of cassava affect the price. The prices of fresh cassava roots often rise in November and December of every year as cassava is easily harvested during the rainy season. During the harvesting season, the prices are relatively high due to the limited supply.



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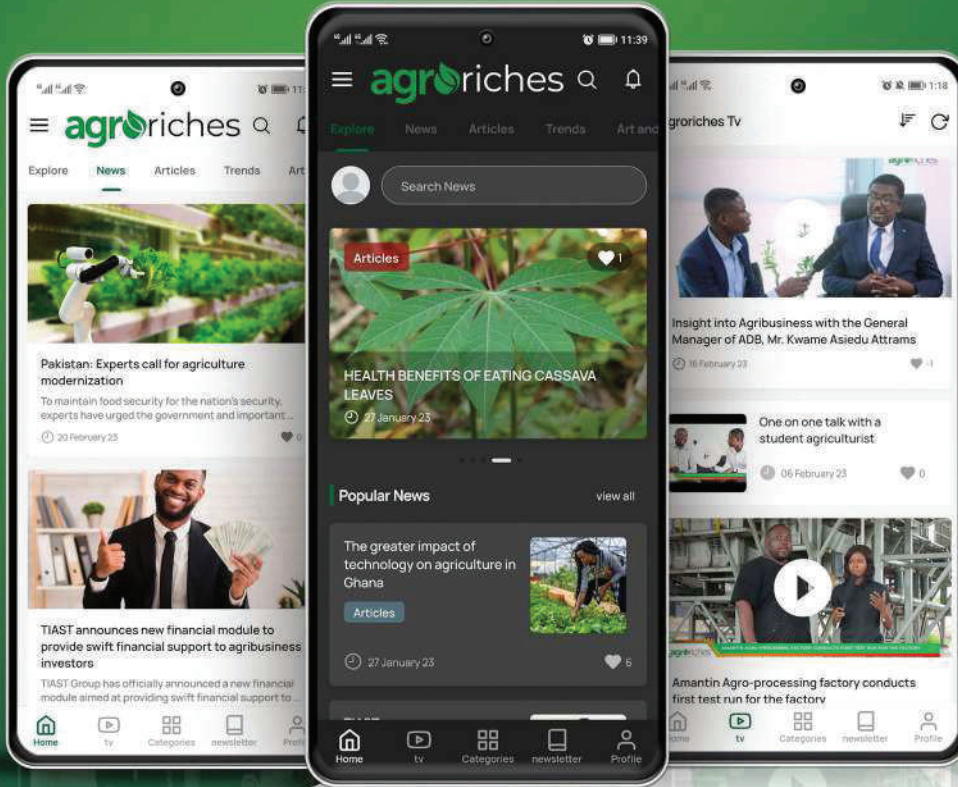
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