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GHANA TODAY

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ARTICLE

How Algae Farming is Revolutionizing Renewable Energy

NOTRE CHRONIQUE

La culture de la Cive en période de sécheresse

A NEW ERA UNFOLDS

NOVEMBER 2023

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 agriculture 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.

TIAST Group ensures offtake services of all processed goods to the international market at competitive international market prices. This solves the problem of the unavailability of a ready market and promotes ready sales at the best rate. We have also secured a huge international market demand for most of the products that will be processed for ready export. These products will command competitive prices on the world market and will subsequently gain considerable market traction. TIAST facilitates the training of local employees and personnel on how to operate and maintain these machines through its localization scheme. We have technical staff on hand who are willing to train locals to operate these processing units. We are justifiably proud to be the market leaders in the agricultural industrialization space in Ghana and the sub-region. We are also proud of our footprint in Ghana and the impact we are making in the agricultural space. This life-changing opportunity is provided by TIAST Group for everyone interested in boosting agricultural value and promoting the value chain.

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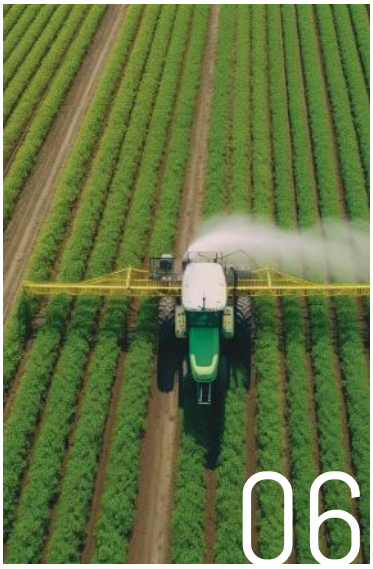

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Adapting to climate smart approaches for a sustainable agriculture

By Prince Opoku Dogbey

In today's rapidly changing climate, the way we farm needs a smart upgrade. Facing unpredictable weather patterns and rising temperatures, farmers worldwide are turning to climate-smart approaches to ensure the sustainability of agriculture.

This means using smart techniques to adapt and make farming resilient.

One key aspect of climate-smart farming is choosing crops that can withstand less water. This is crucial as water scarcity becomes a growing concern. Farmers are also becoming savvy about how they use water, employing sustainable water management practices to optimize its use. Additionally, there's a focus on adopting resilient crop varieties that can thrive in varied conditions.

Climate-smart agriculture goes beyond just crops—it involves thinking about the land and soil too. Farmers are embracing agroecological principles, promoting biodiversity, and maintaining soil health. These practices not only ensure long-term sustainability but also contribute to environmental conservation.

The urgency for climate-smart farming is clear. It's not just about growing food; it's about growing food in a way that cares for the planet. Governments, farmers, and communities need to work together, integrating innovative technologies and resilient practices.

By prioritizing climate-smart approaches, we fortify our food systems, mitigate environmental degradation, and ensure a resilient future for global agriculture. It's not just a choice; it's a necessity for a sustainable tomorrow.

Breadfruit

By Nana Ama Oforiwaa Antwi

Origin

Breadfruit is a major staple crop in the islands of Oceania, South Pacific and other tropical areas. and has been for millennia.

Description

The breadfruit tree grows 12 to 18 metres (40 to 60 feet) high and has large, oval, glossy green leaves, three- to nine-lobed toward the apex. The ripe fruits, or matured ovaries, of these pistillate flowers are roundish, 10 to 20 centimetres (4 to 8 inches) in diameter, and greenish to brownish green and have a white, somewhat fibrous pulp.

Health Benefits

Reduces Joint and Muscle Pain

Breadfruit is a rich source of prenylated phenolic compounds. These compounds include stilbenoids, flavonoids, coumarins, and xanthones which research indicates that may be helpful in the treatment of rheumatic and muscular pain due to their anti-inflammatory properties.

Provides Health Boosting Plant Compounds

Breadfruit's beneficial effects are in part due to the anti-inflammatory actions the prenylated phenolic compounds have. It provides antioxidant properties. They've also been studied for their anti-diabetic activity, obesity prevention, cardioprotection, immune system boosting, neuroprotection, and bone-protective properties.

Makes a Nourishing Flour Replacement

Since breadfruit is gluten-free, its flour offers a gut-friendly alternative for those who have celiac disease or non-celiac gluten sensitivity. Research shows that breadfruit flour is more easily digestible than wheat flour as well.

Prevents Bacterial Infections

Breadfruit extracts containing ethyl acetate and methanol have been found to have antibacterial effects, especially in regard to bacteria such as Streptococcus mutans and Pseudomonas aeruginosa.

Deputy Minister Urges Private Sector Support for PFJ Phase 2 Initiative

By Nana Ama Oforiwaa Antwi

The Deputy Minister of Food and Agriculture, Yaw Frimpong Addo has called on private support for Food and Jobs Phase 2 (PFJ II) initiative.

The initiative aims to enhance food security and resilience by providing farmers with essential inputs, which includes an input credit system designed to address critical challenges such as limited access to credit, the quality of agricultural inputs, unstructured agricultural markets, and inadequate mechanization.

He made these remarks during the inaugural recognition ceremony organized by the Plant Protection and Regulatory Services Directorate (PPRSD) in Accra, where agriculture service provider and agrochemical dealer, Wynca Sunshine, was honored for its consistent support to farmers.

Wynca Sunshine received a citation at the event, recognizing its unwavering commitment and dedication to the agricultural sector. Mr. Frimpong, who is in charge of crops, applauded the company for investing $6.5 million in the construction of a modern manufacturing facility, which has significantly contributed to curbing the distribution of counterfeit pesticides, harmful to crops, farmers, and consumers.

The Deputy Minister also lauded Wynca Sunshine for its continuous support of the National Best Farmers awards, both in cash and agricultural inputs, and urged the company to extend its support to the PFJ II initiative. He expressed optimism that with this intervention's solid foundation and the support of private companies like Wynca Sunshine, Ghana could achieve full self-sufficiency in food production, eliminating the need to import food commodities from neighboring countries.

Eric Bentsil Quaye, Director of the PPRSD, recognized Wynca Sunshine for the quality of its inputs, consistency, timely service, license renewal, and the scale of its operations. These factors have aided farmers and improved crop yields, ultimately contributing to economic growth.

Zhu Tao, Director of Wynca Sunshine Ghana, highlighted the company's efforts over the past decade in promoting pesticide safety and responsible agricultural input usage, especially chemical pesticides. These efforts included voluntary programs, training, capacity building, and industry responsible care initiatives, all of which have enhanced the efficiency of post-registration surveillance and management of chemical and non-chemical inputs like fertilizers and pesticides.

AGRA Reaches 11 Million Farmers with New Agriculture Extension Model

By Prince Opoku Dogbey

The Alliance for Green Revolution in Africa (AGRA) has earned commendation from the Nigerian government as its innovative agriculture extension model, Community Based Advisory, successfully reaches over 11 million farmers.

The recognition came during the Africa-Wide Agricultural Extension Week (AAEW) in Abuja, where AGRA was honored for its substantial contribution to advancing agriculture extension services in Nigeria and across the continent.

AGRA's Country Director, Rufus Idris, revealed the transformative impact of the Community Based Advisory model, significantly reducing the gap between extension agents and farmers.

The model has evolved from one extension agent serving 5000 farmers to a more personalized approach of one extension agent per 500 farmers.

Idris outlined plans to further narrow this gap, emphasizing the success of AGRA's agricultural model in the Nigerian context. Under the AGRA 3.0 strategy, the organization aims to amplify its successful initiatives, extending its impact on a larger scale.

Idris underscored the effectiveness of the private sector-driven Community Based Advisory model in ensuring that farmers at the grassroots level in Nigeria gain access to essential extension services.

"We have been able to promote an agriculture model that has really worked, that is the community-based advisory model, which is mainly a model that is private sector-driven and ensures that farmers at the last mile get access to extension services," stated Idris.

The reduction in the travel distance for farmers to access inputs was also highlighted as a significant achievement. AGRA successfully reduced the travel distance from more than 20km to less than 10km, with ongoing efforts to further minimize this distance.

The recognition from the Nigerian Minister of State for Agriculture and Rural Development, Senator Abdullahi Sabi, underscores AGRA's decades-long commitment to promoting innovative extension services in Nigeria. Idris views the award as both validation of past efforts and a call to do more, acknowledging the ongoing challenges faced by Nigerian farmers and those across Africa who still struggle to access the right kind of extension services.

FAO Report Exposes Hidden Costs of Global Food Systems Surpassing $10 Trillion Annually

By Nana Ama Oforiwaa Antwi

A new report from the Food and Agriculture Organisation (FAO) reveals that while current food systems play a vital role in nourishing populations and supporting economies, they also impose substantial hidden costs, amounting to at least $10 trillion annually, on health and the environment.

This staggering figure represents nearly 10 percent of the global Gross Domestic Product (GDP) and is outlined in the 2023 edition of the State of Food and Agriculture (SOFA) report. The report introduces the concept of hidden costs and benefits associated with agrifood systems and offers a framework for assessing them, with the ultimate goal of steering global agrifood systems, which encompass food and non-food agricultural production, towards greater sustainability.

FAO Director-General Dongyu Qu emphasizes the urgency of acknowledging these hidden costs in the face of various global challenges, including food availability, climate change, biodiversity loss, economic uncertainties, poverty, and more. Recognizing the true costs and understanding our contributions to them is vital for shaping the future of agrifood systems.

The report highlights that over 70 percent of the hidden costs are driven by unhealthy diets rich in ultra-processed foods, fats, and sugars, which contribute to obesity and non-communicable diseases while causing labor productivity losses. These issues are particularly prevalent in wealthier countries. Additionally, about one-fifth of the total hidden costs are environmentally related, stemming from greenhouse gas emissions, nitrogen emissions, land-use changes, and water usage, impacting all countries.

Low-income nations are disproportionately affected by these hidden costs, with them representing over a quarter of their GDP, compared to less than 12 percent in middle-income countries and less than eight percent in high-income countries. The report calls for more comprehensive and regular analysis of the hidden or "true" costs of agrifood systems through true cost accounting, followed by decisive actions. The FAO report is the first to break down these costs at the national level and ensure comparability across cost categories and countries.

The FAO plans to dedicate two consecutive editions of the SOFA report to this theme, with the current report offering initial estimates. The 2024 edition will focus on in-depth assessments to identify effective mitigation measures, such as taxation, subsidies, and legislation.

The FAO urges governments to adopt "true cost" accounting to transform agrifood systems in response to challenges like climate change, poverty, inequality, and food security, necessitating investment and innovation in areas like research, data collection, and capacity building.

From WASTE to FASHION

By Nana Ama Oforiwaa Antwi

The fashion industry, known for its rapid trends and disposable clothing culture, has a significant environmental footprint. The production of textiles from virgin resources, such as cotton and synthetic fibers, requires vast amounts of water, energy, and chemicals. However, a sustainable revolution is underway in the world of fashion, and one of the most promising facets of this transformation is the concept of circular fashion, which involves the sustainable production of fibers from agricultural waste.

One of the most innovative aspects of circular fashion is the production of sustainable fibers from agricultural waste.

Just imagine for a second, making money even from waste?
In Ghana recently, water pouch bags, popularly known as "sachet water" are being collected by individuals and recycled into big bowls, plastic chairs, basins, etc. and these individuals who partake in the collection exercise are paid and the recycled products are also patronized. This initiative has created employment opportunities for individuals and it also provides extra income to the producers. Now, let's look at some key points that highlight the potential and benefits of this sustainable practice in agriculture:

1. Agricultural Waste as a Resource: Circular fashion capitalizes on agricultural waste, such as crop residues, stems, leaves, and husks, which are typically discarded or burned. Instead of being treated as waste, these materials can be transformed into valuable textile fibers.

2. Reduced Environmental Impact: The production of fibers from agricultural waste significantly reduces the environmental impact of fashion. It conserves water, energy, and land resources while reducing the need for chemical inputs, pesticides, and herbicides.

3. Diverse Sources: Various agricultural waste materials can be used, depending on regional availability and crop types. Rice straw, banana stems, flax residues, and pineapple leaves are just a few examples of the diverse sources for sustainable fibers.

4. Biodiversity and Soil Health: By utilizing agricultural waste, circular fashion supports soil health and biodiversity. Crop residues left in the field can improve soil quality, reduce erosion, and provide habitats for beneficial insects.

Circular fashion, with its focus on sustainable fiber production from agricultural waste, represents a significant shift in the fashion industry towards eco-friendly and socially responsible practices. By transforming waste into a valuable resource and promoting a closed-loop system, circular fashion offers a path towards a more sustainable and regenerative fashion industry, where waste is minimized, and clothing is designed for longevity and recyclability.

THE NEW BUZZ IN AGRITECH: ROBOBEES

By Nana Ama Oforiwaa Antwi

Robotic bees, or "robobees," are creating quite “the buzz” in the world of agriculture and environmental conservation. These tiny, artificial pollinators are specifically designed to mimic the essential role of honeybees and other pollinators in the plant kingdom. As natural pollinators face threats from various environmental factors, these innovative creations offer a promising solution to maintain global food production and biodiversity.

Bees play a critical role in agriculture, and according to the United States Department of Agriculture, they help to pollinate some 35 percent of the world’s food crops. Honey bees, specifically, pollinate more than 90 commercially grown crops in the United States alone, including apples, broccoli and almonds.

In Ghana, bees are bred for honey rather than their help in aiding pollination. Therefore, it is not surprising that there have been several reports on bees going extinction in a few years to come as several countries around the globe breed these insects for several purposes.

While there is no looming threat of global food supply shortages due to mass bee extinction, honey bees still face significant challenges. Commoditized bees are particularly vulnerable to various parasites and diseases, and they have strict dietary needs. Robotic bees on the other hand, are relatively small autonomous devices equipped with the ability to collect and transfer pollen from one flower to another.

One of the primary driving forces behind the development of robotic bees is the decline in natural pollinators. Honeybee populations, in particular, have been dwindling due to factors such as pesticide use, habitat loss, climate change, and diseases. These innovative robots are designed with various sensors and cameras, allowing them to identify and locate flowers with precision. They can collect and transfer pollen efficiently, performing the task in a controlled and programmable manner. This precision in pollination is crucial in agriculture, as it can significantly boost crop yields and quality.

Robotic bees also offer a degree of scalability that is challenging for natural pollinators. They can work continuously, unaffected by weather conditions or circadian rhythms. This flexibility can be particularly advantageous in large-scale agricultural operations and greenhouse environments where consistent pollination is required.

While the concept of robotic bees is exciting and promising, challenges remain, including the development of energy-efficient, long-lasting power sources and ensuring their integration into natural ecosystems does not have unintended consequences. Additionally, cost-effective mass production and deployment need to be addressed.

Key Factors you need to consider when starting a farm

By Prince Opoku Dogbey

Starting a farm is indeed a journey! Begin with your passion and expertise—what crops or animals align with your interests?

That sets the foundation. Next, study your location; grasp the nuances of the soil, climate, and water availability. This understanding guides your choices and cultivation methods.

Budget wisely by focusing on critical aspects like essential equipment and infrastructure. Don't overextend initially. Also, research your market—identify local demands to shape your production choices. And, think long-term sustainability.

Opt for practices that benefit both the environment and your farm's resilience. It's a gradual process, but with these priorities, you'll be on the right path to a thriving and sustainable farm!

URBAN AGRICULTURE EXPERTS ADVOCATE CLIMATE-SMART APPROACHES FOR FOOD SECURITY AT ACAT 2023

By Nana Ama Oforiwaa Antwi

The inaugural edition of the African Conference on Agricultural Technology (ACAT) was held in Nairobi, Kenya from October 30, 2023, to November 4, 2023, organized by the non-profit Africa Agricultural Technology Foundation (AATF). The event brought together agricultural researchers, policymakers, industry leaders, and innovators from around the world to address the pressing issue of agricultural productivity in Africa.

One of the key topics discussed during the conference was the significant role of urban agriculture in enhancing food security. According to Margaret Gill, an emeritus professor at the University of Aberdeen, United Kingdom, urban agriculture can provide fresh, nutritious food to city residents.

To make urban agriculture environmentally friendly, experts recommended practices such as cultivating drought-tolerant plants to reduce irrigation water consumption, a valuable resource in urban areas. They highlighted the critical role of urban agriculture in ensuring food security, dietary diversity, community well-being, and ecological benefits in the face of advancing climate change.

Henry Gordon-Smith, founder and CEO of advisory services and technology firm Agritecture, noted that access to land and unfavorable climate conditions are challenges for urban farming. He introduced hydroponics as a modern agricultural technology that boosts productivity and conserves water, potentially saving up to 90% of water consumed compared to traditional agriculture.

Renalda Bernard Mlay, founder of agricultural company Renie Fresh in Arusha, Tanzania, emphasized that urban agriculture requires efforts to mitigate pollution, address climate change, and efficiently manage water and energy.

Sylvia Horemans, a member of the board of trustees of AATF and CEO of agricultural company Kamano Seed, Zambia, pointed out that urban and peri-urban agriculture is a fundamental strategy for enhancing a city's food supply. As the majority of the world's population resides in urban areas, with a significant percentage of food production destined for cities, this form of agriculture plays a vital role in the face of increasing urbanization.

Horemans cited the United Nations' estimate that by 2050, approximately 68% of the world's population will live in urban areas, with significant growth expected in small cities and towns in Africa and Asia. This rapid urbanization places immense pressure on food supply chains, especially when compounded by factors such as climate change and the aftermath of the COVID-19 pandemic. Stable food production, simplified supply chains, and adaptable distribution tools are highlighted as essential for addressing the rising challenges of food insecurity, malnutrition, and diet-related non-communicable diseases.

CRAYONS FROM SOYBEANS?

Did you know that crayons are grown from soybeans? Yes, you read right! A soybean oil from one bushel can produce 2,112 crayons. This means, one acre of soybeans can produce 82, 368 crayons!

Potato CHIPS

Potatoes used for making chips contain essential vitamins like vitamin C, B6, and potassium. Vitamin C is an antioxidant that supports the immune system, while potassium is crucial for heart health and proper muscle function.

A NEW ERA UNFOLDS

By Prince Opoku Dogbey

In the vast fields where tradition meets technology, a new era is unfolding - we call it "Farming 2.0." This isn't about leaving behind the old ways; it's about combining them with smart technology to make farming even better.

Imagine a farmer's field as a high-tech masterpiece. Precision farming is a big part of Farming 2.0. With cool gadgets like GPS-guided tractors and drones, farmers become like artists, carefully crafting their fields. Sensors in the soil act like little detectives, telling the farmer exactly when to water and what special nutrients the plants need. It's like having a recipe for success, not just for the crops but for taking care of the Earth too.

Now, let's talk about the cool stuff – smart devices and the Internet of Things (IoT). Picture this: machines on the farm chatting away! Farmers can control things from a distance, like turning on sprinklers or checking on the crops. It's like magic, making the farm smarter and more efficient.

In Farming 2.0, farmers mix their age-old knowledge with new information from technology. It's like having a wise grandparent team up with a super-smart robot. Computers and clever tools help them decide when to plant, when to harvest, and even how to take care of the farm animals. It's a tech-savvy helper on the farm, making everything run smoothly.

But Farming 2.0 is not just about machines; it's also about bringing farmers together. There are apps and websites where they can learn about the market and decide the best time to sell their crops. It's like a big online community where farmers share ideas, tips, and stories – creating a connected world for everyone involved.

So, imagine Farming 2.0 as a mix of old and new, where farmers use their wisdom gained over the years and add a touch of technology magic. It's not just about growing crops; it's about doing it smarter, making it better for the environment, and creating a connected community in the vast landscapes where tradition meets tech.

In the heart of Farming 2.0 lies precision farming, a concept that transforms the way farmers tend to their fields. Imagine farmers becoming artists, crafting their fields with precision using GPS-guided tractors and drones. Sensors in the soil act as detectives, providing real-time information about when to water and what nutrients the plants need. It's like having a recipe for success, not just for the crops but for the environment too.

Now, let's delve into the exciting world of smart devices and the Internet of Things (IoT). Picture machines on the farm communicating with each other! Farmers can control things from a distance, such as turning on sprinklers or checking on the crops. It's like magic, making the farm smarter and more efficient.

Farming 2.0 is all about blending age-old wisdom with new technology. It's like having a wise grandparent team up with a super-smart robot. Computers and clever tools help farmers decide when to plant, when to harvest, and even how to take care of the farm animals. It's a tech-savvy helper on the farm, making everything run smoothly.

But Farming 2.0 goes beyond machines; it's also about bringing farmers together. Apps and websites provide real-time market information, helping farmers make strategic decisions about when and where to sell their crops. It's like a big online community where farmers share ideas, tips, and stories – creating a connected world for everyone involved.

So, envision Farming 2.0 as a harmonious mix of old and new, where farmers use their traditional wisdom and add a touch of technology magic. It's not just about growing crops; it's about doing it smarter, making it better for the environment, and creating a connected community in the vast landscapes where tradition meets tech.

Breadfruit Ice Cream

By Nana Ama Oforiwaa Antwi

Ingredients

- 2 ½ cups heavy cream
- ¾ cup sugar 1 cup firm,
- Ripe breadfruit,
- 1 tsp egg yolk

Procedure

- Wash, peel and grate the breadfruit into a bowl
- Beat the egg yolk and the heavy cream and beat till smooth.
- Add all ingredients to ice cream maker for 25-30 minutes.

SILOVPASTURE: A WIN-WIN SOLUTION FOR SUSTAINABLE FARMING

By Nana Ama Oforiwaa Antwi

Silvopasture is a sustainable and innovative agroforestry practice that combines the cultivation of trees or woody plants with livestock grazing. This integrated approach offers a multitude of benefits for both the environment and farmers, making it a win-win solution for sustainable agriculture.

Its systems are designed to mimic natural ecosystems, where trees and pastures coexist harmoniously. In these systems, carefully selected tree species are strategically planted within pastures to provide shade, shelter, and forage for livestock.

One of the primary advantages of silvopasture is enhanced animal welfare. The presence of trees offers shade and shelter to livestock, reducing stress from extreme weather conditions and enhancing their well-being. Consequently, healthier and more comfortable animals can result in improved production and reduced health care costs for farmers.

Biodiversity promotion is another significant benefit of silvopasture. The coexistence of trees and pastures provides habitat for various wildlife species, fostering greater biodiversity on the farm. This, in turn, helps in maintaining a balanced ecosystem, potentially reducing the need for chemical pesticides.

Silvopasture contributes to carbon sequestration by trees, mitigating climate change. With climate change posing adverse effects to the environment and agriculture, the sequestration of carbon dioxide from the atmosphere by trees can help offset emissions from livestock and other agricultural activities, making it an important tool in the fight against climate change.

One of the key advantages for farmers is the ability to diversify income streams. In addition to livestock, silvopasture systems can produce timber, fruits, nuts, and other forest products.

Moreover, silvopasture reduces feed costs as livestock can graze on tree leaves, forage, and understory plants, reducing the need for supplemental feed and resulting in cost savings for farmers.

Also, another important aspect of this system is climate resilience. Trees provide shade and shelter during heatwaves and reduce wind speed during storms, protecting livestock and crops and ensuring a more resilient farming system.

The practice in all contributes to water quality improvement by reducing runoff and soil erosion, which can lead to better water quality in nearby streams and rivers.
Furthermore, aesthetics of silvopasture landscapes are not to be overlooked. These integrated systems are not only productive but also aesthetically pleasing, improving the overall beauty of rural areas and even attracting eco-tourism.

Hope at Last

When all hope is lost
And the smile is gone
We look to the east
And turn to the west
We look to the earth
Dead silence
We look above
And the sun smiles at our faces
The rain washes our toils and pain away
And the earth answers our plea with a new bloom
So young and pure
It bursts out of its bud
And gives us hope again

— Poem by Nana Ama Oforiwaa Antwi

How Algae Farming is Revolutionizing Renewable Energy

By Nana Ama Oforiwaa Antwi

In the quest for sustainable energy sources, we are finding solutions in things that once upon a time may have seemed unimaginable.

Recently, algae farming has emerged as a promising and innovative solution to meet the world's growing energy demands while reducing the environmental impact. Algae, a diverse group of photosynthetic microorganisms, have shown immense potential for biofuel production, making a significant contribution to the conservation of conventional fossil fuels and the reduction of greenhouse gas emissions.

Algae, in comparison to traditional crop-based biofuels like corn or soybeans, offer several advantages. First and foremost, algae can produce biofuels at a much higher yield per acre of cultivation. They are incredibly efficient photosynthesizers and can multiply rapidly, producing significant biomass. This high productivity is essential for meeting the global energy demand without encroaching on vital food crops or natural habitats.

One of the most promising aspects of algae farming is the ability to produce a wide range of biofuels. Algae can be used to generate biodiesel, biogas, and bioethanol, making them a versatile source of renewable energy. This diversity in biofuel production not only decreases our reliance on fossil fuels but also helps mitigate the environmental and economic impacts of fluctuating oil prices.

Algae's carbon-neutral cycle is another key conservation benefit because during the growth phase, algae consume carbon dioxide (CO_2) from the atmosphere, offsetting emissions from other sources. When processed into biofuels, the CO_2 is released, but the net balance remains neutral, effectively reducing greenhouse gas emissions. This process has the potential to mitigate climate change by both producing a sustainable energy source and removing CO_2 from the atmosphere.

They also provide a lot of oxygen as a bi-product of photosynthesis as well.
The environmental impact of algae farming is significantly lower compared to traditional agriculture. Algae do not require large amounts of arable land, and their growth can actually help purify wastewater by removing excess nutrients.
However, challenges remain in realizing the full potential of algae farming for biofuel conservation. Research and development efforts are ongoing to optimize algae strains, cultivation methods, and harvesting techniques to enhance productivity and reduce production costs.

Nevertheless, algae farming holds immense promise for biofuel conservation, contributing to the transition from fossil fuels to renewable energy sources and as technology and research continue to advance, algae-based biofuels may play a significant role in mitigating climate change, conserving conventional fossil fuels, and promoting a more sustainable energy future.

MULCHING: A BRIEF GUIDE

By Nana Ama Oforiwaa Antwi

Mulching is a simple yet powerful technique to enhance crop growth and health. To begin, choose organic materials like straw, leaves, or grass clippings. Spread a layer around your plants, ensuring it's about 2 to 4 inches thick.
Mulch serves as a protective blanket, retaining soil moisture, suppressing weeds, and regulating soil temperature.

Ensure the mulch doesn't touch the plant stems directly to prevent rot. Mulching conserves water, reducing the need for frequent irrigation, and shields the soil from extreme temperature fluctuations. As the organic matter decomposes, it enriches the soil with nutrients. Embrace mulching as a cost-effective and eco-friendly practice, promoting healthier crops and sustainable farming.

The Benefits of Venturing into Agriculture

By Prince Opoku Dogbey

Embarking on an agricultural journey is not just a profession; it's a gateway to a myriad of benefits that extend beyond the farm gates. First and foremost, agriculture offers a tangible contribution to food security. As a vital sector, it ensures the production of nutritious and diverse crops, directly impacting local and global communities.

Beyond sustenance, agriculture provides economic stability. For entrepreneurs, cultivating the land can be a lucrative endeavor. Farming activities create jobs, stimulate rural economies, and foster a cycle of financial growth. The demand for agricultural products continues to soar, presenting opportunities for innovation and diversification in agribusiness.

Moreover, agriculture nurtures a connection with nature. Working the land fosters an appreciation for the environment and promotes sustainable practices. Farmers often find themselves at the forefront of conservation efforts, implementing eco-friendly techniques to preserve the earth's resources for future generations.

In a world increasingly concerned about climate change, agriculture becomes a solution. Sustainable farming practices, such as agroforestry and organic cultivation, contribute to carbon sequestration and environmental resilience.

Venturing into agriculture is not just a profession; it's an investment in food security, economic stability, environmental stewardship, and a deep-rooted connection with the land. As individuals and communities explore the green potential of agriculture, they sow the seeds for a sustainable and prosperous future.

ONU soutient le projet Zambie : 8,5 millions de dollars pour développer l'agriculture d'appui maraîchère

Par Yosua Domedjui

Good Nature Agro reçoit 8,5 millions de dollars pour développer sa société de prêt aux agriculteurs en Zambie.

La société agricole zambienne Good Nature Agro, soutenue par les investisseurs Oikocredit, Goodwell Investments et Global Partnerships, a reçu des fonds supplémentaires pour étendre ses activités et atteindre de nouveaux marchés.

Good Nature Agro, qui investit et finance des entreprises agricoles en Zambie, a obtenu un investissement privé de 8,5 millions de dollars. Cette ressource a été fournie par l'investisseur d'impact Oikocredit, la société d'investissement GoodwellInvestments et le gestionnaire de fonds Global Partnerships.

Le bénéficiaire de ce financement sera en mesure de financer plus largement et plus activement les agriculteurs, avec l'objectif d'atteindre 50 000 agriculteurs comme clientèle d'ici 2027.

Oikocredit et ses deux partenaires affirment qu'en réalisant cet investissement, ils espèrent aider les agriculteurs d'Afrique australe à augmenter leurs rendements et à améliorer leur accès aux marchés pour leurs produits.

En 2020, GoodwellInvestments et Global Partnerships ont réalisé un investissement initial de 2,1 millions de dollars dans Good Nature Agro afin d'aider l'entreprise zambienne dans ses activités.

GoodwellInvestments et Global Partnerships estiment que cet investissement de suivi était justifié car les activités et les revenus de Good Nature Agro se sont améliorés depuis le premier investissement. Par conséquent, ils se sont engagés à aider Good Nature Agro dans sa prochaine phase de croissance, qui sera propulsée par la combinaison de l'inclusion numérique et financière ainsi que par des efforts délibérés d'expansion inorganique.

La culture de la Cive en période de sécheresse

Par Yosua Domedjui

Les installations de biogaz, qu'elles soient individuelles ou groupées, sont très prisées en France. Agri énergie, qui produit du biogaz à Auros, en Gironde, depuis octobre 2022, a reçu la visite de Cultivar. L'initiative, qui comprend deux digesteurs, est en partenariat avec neuf agriculteurs locaux. Solagro, dont le spécialiste Jérémie Priarollo a donné des conseils sur les cultures intermédiaires à vocation énergétique (Cive), soutient l'entreprise.

Les agriculteurs partenaires cultivent annuellement 300 hectares de Cive, dont 200 ha de cultures d'hiver et 100 ha de cultures d'été, afin d'alimenter en matière végétale les deux digesteurs d'Agriénergie.
Les cultures d'été à cycle court des partenaires sont principalement des sorghos fourragers ou des maïs, notamment ceux qui sont les mieux adaptés à la production de matière sèche.

Pour profiter de l'humidité résiduelle du sol, il faut semer la Cive d'été le plus tôt possible, explique Jérémie Priarollo, responsable du bureau d'études méthanisation de Solagro. L'astuce consiste à augmenter le rendement de la ciboulette sans trop épuiser les précieuses réserves du sol afin de ne pas pénaliser la culture suivante.

L'expert poursuit : « Pour conserver cette eau disponible, un nombre croissant d'agriculteurs utilisent les techniques d'ensemencement les plus élémentaires. »
Choisir une cive qui s'intègre le mieux possible dans la rotation.

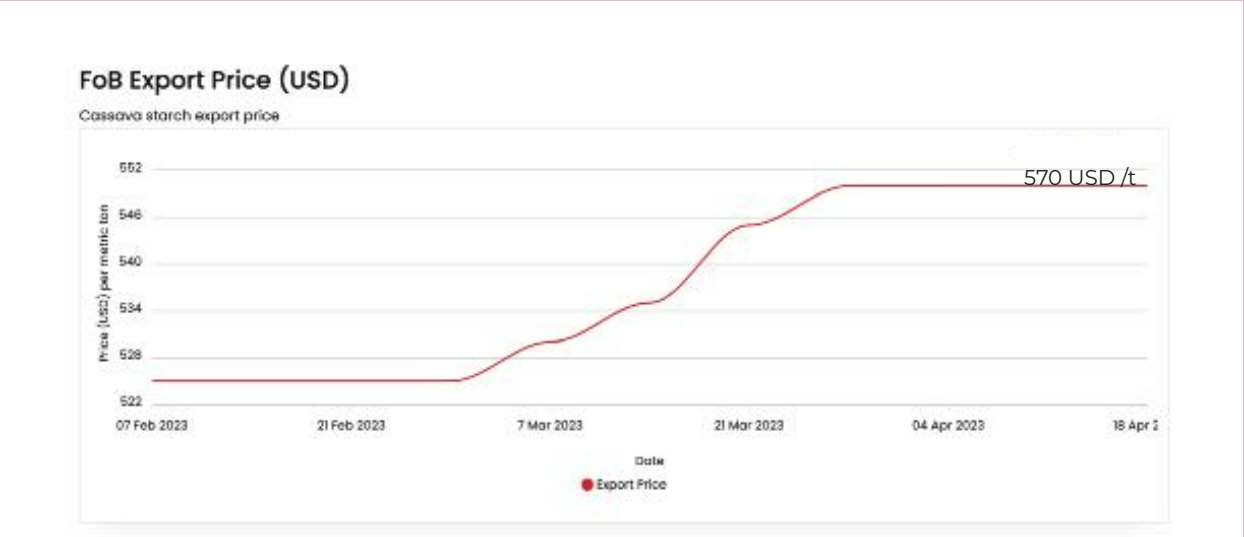
« Avec la récurrence de la sécheresse ces dernières années et l'absence de garantie d'approvisionnement en eau, les civettes d'été présentent un niveau de risque élevé", affirme Jérémie Priarollo. Le président d'Agriénergie, Yannick Duffau, constate que » nous sommes parfois dans l'impossibilité de semer du maïs" en période de sécheresse.

Mais irriguer une culture qui n'est pas destinée à l'alimentation humaine semble contradictoire. "Les agriculteurs vont choisir la Cive qui s'intègre le mieux possible dans la rotation, avec un bon rendement et le moins d'intrants possible", explique Jérémie Priarollo.

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 WWWoffered 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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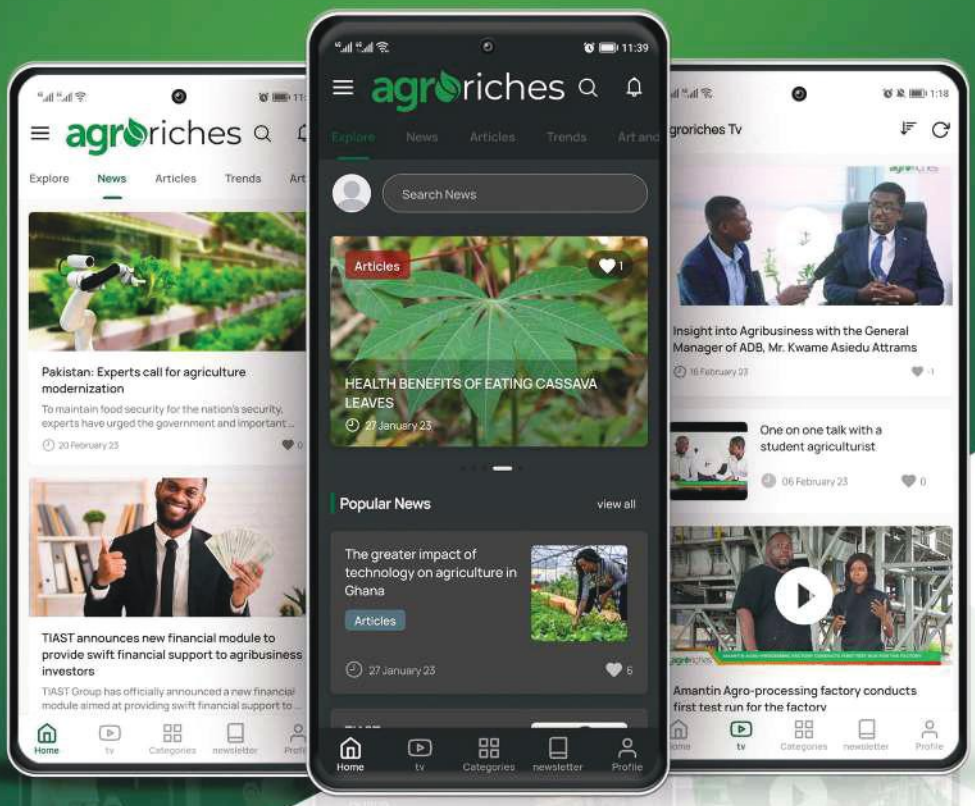

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