# AFICAT Newsletter (Kenya No. 2)

**Issued on February 19, 2024**

This newsletter presents the activities of the "Africa Field Innovation Center for Agricultural Technology" (AFICAT). In this second issue, we share insights into the collaborative efforts between the Kenyan government and Japanese companies, coordinated by the AFICAT team, from March to August 2023 in Kenya.

## Demonstration of the woodchipper and other agricultural machines

HONDA MOTOR CO., LTD. (Honda) is world famous for its motorcycles and automobile products. However, it also manufactures agricultural machinery as part of its power products line. In March 2023, Honda, in collaboration with their local distributor, PROTECH, organized a demonstration featuring PROTECH's woodchipper equipped with a Honda engine, alongside a tiller, brush cutter, and backpack sprayer. The event took place at Lauren International Flowers, a private company specializing in rose cultivation and exportation. The participants were impressed by the performance of the woodchipper, brush cutter, and backpack sprayer, and were very enthusiastic about using these products. They proposed utilizing the woodchippers to create compost from rose trimmings. Additionally, they expressed a preference for Honda's small horsepower tillers, highlighting their superior efficiency within greenhouses compared to larger machinery such as tractors.

For further details regarding Honda's products, please contact PROTECH.

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  URL: https://protechkenya.com/

*Demonstration of the woodchipper*

*Lauren International Flowers usually undertakes land preparation in greenhouses manually.*

【Honda staff's Comments】

PROTECH provides technical support to customers in Kenya. We organized this demonstration to broaden the awareness of Honda products throughout the country. PROTECH is well-versed regarding the advantages of Honda products and is actively engaged in promotional activities. Additionally, Honda intends to establish partnerships with local companies to integrate Honda engines into machines manufactured by other entities, thereby addressing local requirements.

## KiliMOL's transplanter demo in Siaya

From March 14 to 16, the Agricultural Technology Development Centre (ATDC) of the Ministry of Agriculture and Livestock Development (MoALD) in Siaya, together with Jomo Kenyatta University of Agriculture and Technology (JKUAT), coordinated a training session focused on promoting mechanization in the rice sector. This initiative was conducted in collaboration with KiliMOL, a Japanese dealer specializing in secondhand agricultural machinery. Thirty-three individuals, including machinery service providers, farmers, the MoALD officials, and other stakeholders from Siaya and Busia Counties, participated in the session.

The training covered a range of topics, including a lecture on agricultural machinery investment and the operation and maintenance of combine harvesters, as well as demonstrations of rice transplanters (Kubota riding type NSD8 and Iseki walking type PC5). During the session, participants recognized the importance of ongoing training aligned with the advancement of mechanization, along with the significance of machinery in enhancing efficiency. A machinery service provider who attended the session expressed their commitment to mechanization by announcing plans to introduce 10 new tractors and five new combine harvesters, demonstrating their proactive investment in this area.

During the training, KiliMOL conducted demonstrations of the rice transplanters. KiliMOL specializes in promoting and selling secondhand Japanese machinery, including rice transplanters, tractors, and power tillers. For more information about the range of secondhand Japanese machines available through KiliMOL, please visit their website.

- Website: https://kilimol.net/

*8-row rice transplanter, Kubota NSD8*

## KiliMOL's transplanter demo in Mwea

On June 14, the ATDC of the MoALD in Siakago, together with KiliMOL, in collaboration with the Mwea Irrigation Agricultural Development Center (MIAD), organized a training session on rice transplanters at MIAD. A total of 67 individuals, including machine operators from a local agricultural cooperative (Mwea Rice Growers Multipurpose Co-operative Society), neighboring farmers, private companies, and governmental officials, participated in the session.

The program began with a lecture on the merits of introducing rice transplanters, operation and maintenance, and other related topics. Subsequently, the participants proceeded to a paddy field to observe demonstrations of both a 6-row riding type and 4-row walking type rice transplanter. Following the conclusion of the program, nearly all the participants expressed their willingness to adopt rice transplanters. The primary reason cited for considering rice transplanters is their potential to reduce the labor costs associated with transplanting work. Several participants emphasized the necessity for the levelling of paddy fields and the importance of continuous training opportunities for operators of transplanters.

KiliMOL continues training, business model verification, and other activities to promote rice transplanters in Kenya. In March 2023, this initiative was adopted by the Japan International Cooperation Agency (JICA)'s SMEs/SDGs business-support program, and this is expected to

accelerate KiliMOL's various activities. The collaboration among stakeholders including KiliMOL, JICA, MoALD, and MIAD is expected to promote the adoption of rice transplanters, thereby contributing to the expansion of rice production in Kenya. The AFICAT team will consistently provide updates on the progress of KiliMOL activities to support the promotion of transplanters and agricultural mechanization in Kenya.

*Demonstration of a 6-row riding type rice transplanter (Kubota) and a 4-row motorized walking type rice transplanter (Mitsubishi Mahindra)*

## Sagri: Satellite data and AI technology to support farmers in Kenya

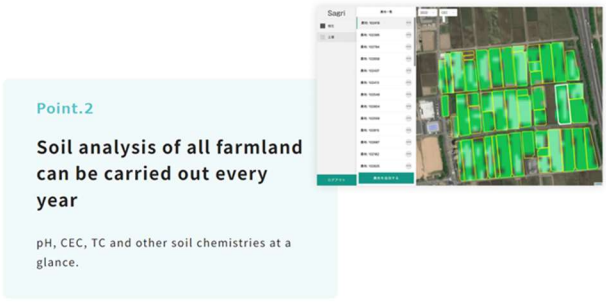
Sagri Corporation (Sagri) is a Japanese technology company specializing in analyzing soil conditions and monitoring agricultural product growth using satellite data. Sagri's service eliminates the need for laboratory chemical analysis to assess soil conditions. This streamlined approach enables users to reduce fertilizer usage, resulting in decreased greenhouse gas emissions and the potential generation of carbon credits. Sagri is currently launching operations in Kenya.

As part of the arrangements by JICA experts of the AFRICA-ai-JAPAN Project, implemented in collaboration with JKUAT, Sagri organized an intern briefing for graduates and current students from engineering and agriculture faculties.

The intern briefing was attended by a full house of students (graduates and current students) who actively engaged with the company's presentations by asking technical and related questions. The event was a great success, with 55 individuals expressing interest in participating in individual interviews following the briefing. Interviews continued until 5 p.m., the scheduled closing time of the classrooms.

Sagri is currently seeking additional partners in Kenya. If you are interested, please reach out using the contact information provided below.

- Website: https://sagri.tokyo/en/
- Contact:
  Name: Mr. Satoshi Nagata
  Email: nagata-satoshi@sagri.tokyo




*From Sagri website*

*Mr. Nagata (Center) and JKUAT students at the briefing session (Photo by Sagri)*

## Kett: 2nd seminar of moisture testers

On July 14, at the MoALD, a seminar was organized by Kett Electric Laboratory Co. Ltd. (Kett), arranged by the AFICAT team, featuring the use of Kett's instruments. Twenty local participants attended from various institutes and companies, including the Kenya Bureau of Standards (KEBS) and dealers of agricultural products. During the seminar, they gained insights into grain moisture measurement knowledge and technologies accumulated by Kett over many years. Particularly, from the lecture delivered by Kett staff, participants were able to gain a comprehensive understanding of methods for managing grain moisture content and establishing a traceability system for measuring instruments—an essential process ensuring the reliability and accuracy of measurement results. Following the lecture, participants engaged in hands-on practical sessions with Kett's instruments.

During the Q&A session, some of the participants expressed concerns about the durability of the instruments and the availability of spare parts. In response, Kett staff mentioned their ongoing search for local distributors who possess a deep understanding of their instruments, employ well-trained personnel, and provide good after-sales service. The staff emphasized that this practice reflects Kett's commitment to providing maintenance services post-sale. KEBS expressed optimism that Kett's products, already widely recognized in Southeast Asia for their high accuracy, would be used for a variety of grains and beans, including rice, in Kenya.

*Participants learning how to use Kett's instruments.*

【Kett's competence】

One of Kett's notable competencies lies in its ability to construct a comprehensive traceability system for moisture measurement from top to bottom. The concept of traceability is essential for all measuring instruments, including grain moisture testers. However, not all instrument manufacturers possess the capacity to develop a traceability system independently. This achievement is the outcome of Kett's seventy-plus years of experience and expertise as a pioneer in moisture measurement in Japan and other Asian countries.

## Field tests of Japanese fertilizer and organic bio-stimulants at JKUAT

Pulsar International 株式会社パルサー・インターナショナル

JAPAN CONSERVATION ENGINEERS & CO.,LTD.

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
Setting Trends in Higher Education, Research, Innovation and Entrepreneurship

The *African Union - African Innovation - JKUAT and PAUSTI Network Project* is a JICA Technical Cooperation project implemented in collaboration with JKUAT. Among its activities, the project actively supports Japanese companies in conducting field tests or evaluating the viability of their technologies within local conditions,

alongside a Japanese expert team headed by Prof. Hiroshi Koaze, Chief Advisor.

The project extends its support to AFICAT and Japanese companies collaborating with AFICAT. Currently, JKUAT is conducting field tests for two Japanese products: ORGAMIN, a foliar fertilizer produced by Pulsar International Corporation, and FUJIMIN, an organic bio-stimulant produced by Japan Conservation Engineers & Co., Ltd.

Initially, the AFICAT team held online meetings where representatives from the two companies presented their products to JKUAT professors specializing in plant cultivation. The professors expressed optimism that these materials could address challenges prevalent in local agricultural practices, such as soil degradation, disease outbreaks, and the impacts of climate change. Following the meetings, JKUAT and the Japanese companies began collaborating to develop field test plans. Simultaneously, the AFICAT team assisted the companies in obtaining approval from the regulatory authority, the Kenya Plant Health Inspectorate Service (KEPHIS), to conduct field tests of their pre-registered products at JKUAT.

By December 2023, the processes of finalizing the test plans and obtaining regulatory approval were successfully completed. Subsequently, the tests to evaluate the effects of the two products on plant growth commenced in January 2024. The results of these tests, expected to be available by June 2024, will be utilized by the two companies to promote their products in the Kenyan market.

【ORGAMIN】

ORGAMIN comprises extracts of fermented fish and molasses (sugarcane), alongside other nutrients such as magnesium sulphate, manganese sulphate, and boric acid, among others. The fermentation extracts contain various organic materials including amino-acids, vitamins, sugars, and nucleic acids. ORGAMIN is designed to increase sugar content, accelerate development of the root system, increase crop yield, and improve resistance to disease.

- Pulser International website: https://orgamin.com/
- Contact:
  Mr. Rinpei Inoue
  inoue@pulsar.co.jp

【FUJIMIN】

FUJIMIN is a high-purity fulvic acid solution derived through mass production technology utilizing timber from forest thinning. Fulvic acid, a component of humic substances typically found in humic soil within forests, plays a crucial role in enhancing fertilizer absorption by plants and improving soil conditions. However, fulvic acid is typically present in trace amounts in terrestrial soil and the sediment of water bodies. The company has developed technology for the mass production of fulvic acid, enabling the production of FUJIMIN.

- Japan Conservation Engineers website: https://www.jce.co.jp/en/
- Technology information at “STePP (UNIDO ITPO Tokyo’s Sustainable Technology Promotion Platform)”: http://www.unido.or.jp/en/technology_db/6718/
- Contact: green@jce.co.jp


*ORGAMIN, foliar fertilizer and FUJIMIN, fulvic acid solution.*

## AFICAT team webinar and exhibition event participation in Kenya

On May 30, the AFICAT Team participated in a webinar organized by the Agriculture Sector Network (ASNET). The webinar covered two topics: 1) green energy-based post-harvest technology and 2) rice drying and milling.

Regarding the first topic, a presenter from a private company introduced various technologies, including solar-powered cooling facilities. In the first issue of our newsletter for Kenya, we featured a non-electric potato-cooling and storage facility based on the technology of a Japanese company, Fujita Corporation.

*Interior view of Fujita's potato-storage facility (from AFICAT Newsletter No.1 (Kenya)).*

Regarding the second topic, the lecturer emphasized that traditional methods of rice processing may result in the wastage of approximately 30% of harvested rice, and mechanization could play a pivotal role in ensuring food security. Moisture management is a crucial aspect of post-harvest processes. Inadequate moisture management of rice and other grains, such as coffee beans, can lead to the development of aflatoxins, a type of mold toxin. As you may be aware, Kett offers a range of moisture measuring instruments for a variety of crops.

Indeed, there are numerous Japanese technologies that can address the growing market demands for green energy-based solutions among Kenyan food value-chain actors.

The AFICAT team actively participates in local seminars and exhibition events, such as the 8th AGRITEC AFRICA (held in Nairobi on June 15-17, 2023) and many others. These engagements serve to study and convey the demands of the Kenyan market to Japanese companies. Through these initiatives, we aim to raise awareness among Japanese companies on effective strategies for entering the Kenyan market.

## Editors' postscript

We hope that you enjoyed our second newsletter for Kenya. We also issued the third newsletter, which presented the remaining activities of AFICAT during the pilot phase on the same day. We appreciate your continued readership and hope you will enjoy our next newsletter.

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