Green Bull One

Technical Evidence Summary

Key Evidence

- 67-page University Research Study
- Government Field Trials (Mombasa County, Kenya)
- Up to 5 times more crop performance observed
- 25–50% reduction of conventional fertilizer inputs
- Low Application cost 20 €/ha
- Reduced CO_2 and N_2O emissions

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Introduction

GreenBull One is based on the IKUE AgroTech mineral fertilizer technology, a nutrient formulation developed to improve plant nutrient uptake efficiency and crop productivity while reducing the need for conventional fertilizers. By increasing nutrient efficiency, the technology also contributes to the reduction of agricultural CO_2 emissions from fertilizer production and logistics, as well as N_2O emissions generated in soils through nitrogen fertilization.

The technology combines essential macro- and micro-nutrients including Calcium, Magnesium, Phosphorus, Potassium, Nitrogen, Copper, Iron, Zinc, Manganese and Molybdenum, designed to support balanced plant nutrition, improved plant resilience and better nutrient utilization.

GreenBull One utilizes this fertilizer technology as the agronomic foundation of the system.

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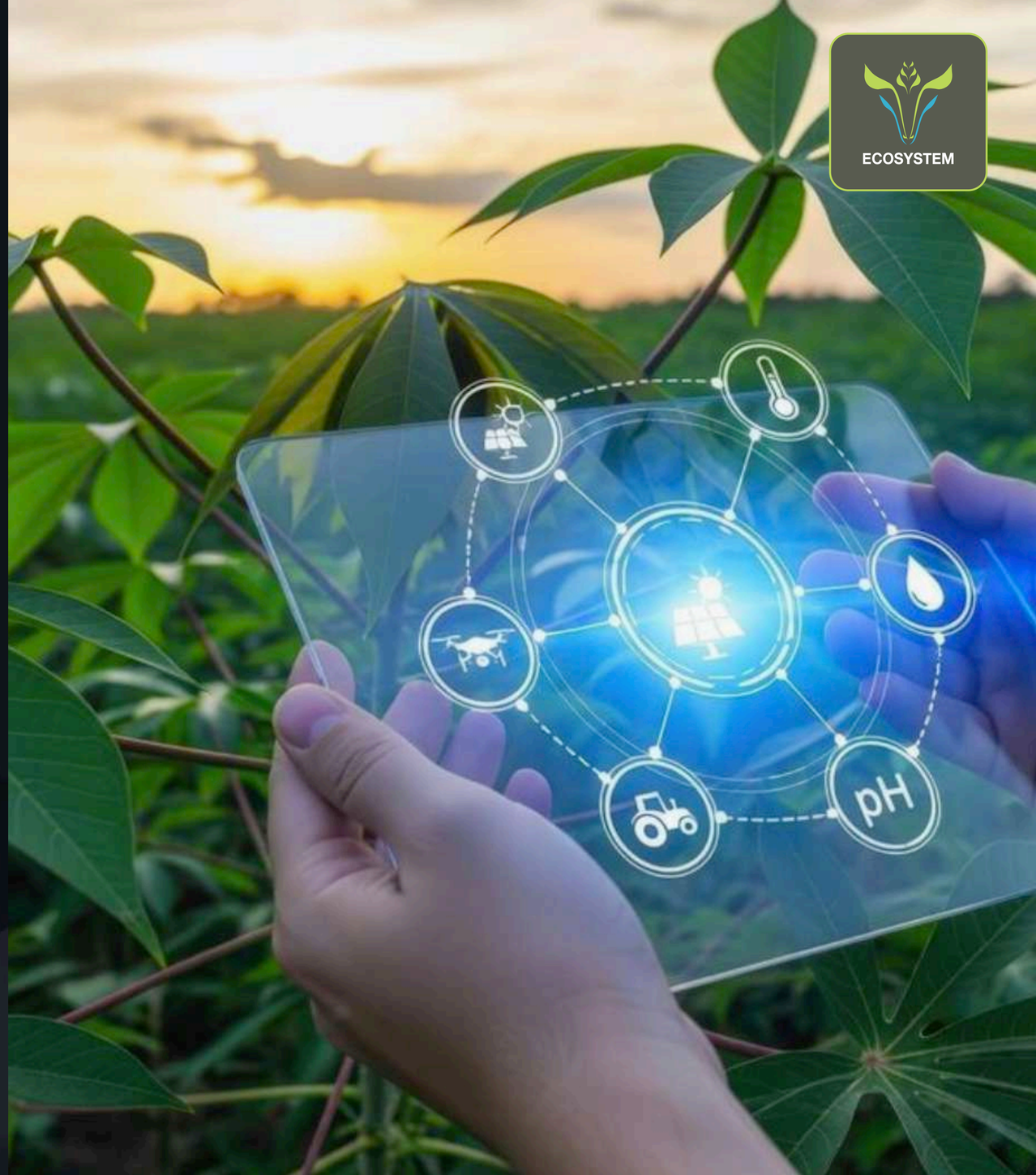
Ecosystem

Ecosystem

The IKUE AgroTech fertilizer technology is designed to operate as a digital agricultural ecosystem that enables large-scale deployment, monitoring and distribution of the technology. GreenBull One benefits directly from this IKUE AgroTech ecosystem, which connects farmers, agricultural partners and distributors through a digital platform and integrates precision agriculture technologies such as drone-based fertilizer application and crop monitoring. Field data can be collected and evaluated to monitor crop performance and fertilizer efficiency across participating farms. The system is designed to operate on professional digital infrastructure provided by technology partners such as telecommunications providers (Telekom, Telcos, KPN IoT, VodafoneZiggo), enabling large-scale smart farming environments supported by cloud infrastructure, IoT connectivity and agricultural data systems.

Financial activities

The IKUE AgroTech ecosystem generates financial activities that support additional projects, NGOs and foundations, demonstrating that the platform operates as an active economic environment.



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Financial Exposure/Free Capital

In many agricultural programs, particularly government procurement programs, conventional fertilizers must typically be purchased and pre-financed three to six months before the planting season, which creates significant financial exposure, logistical complexity and blocked capital.

In contrast, the IKUE AgroTech fertilizer can typically be produced and delivered within four to six weeks, significantly reducing the need for long-term pre-financing while capital remains available, and reducing the need and costs for large storage capacities and complex logistics chains.

Cost Efficiency

At the same time, the fertilizer application cost is approximately 20 EUR per hectare, which is substantially lower than conventional fertilizer programs. This combination of low cost, reduced logistical requirements and improved nutrient efficiency creates a strong economic advantage for farmers and agricultural programs.

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University Research Validation

A 2024 university research project evaluated the agronomic performance of the nutrient formulation through foliar application across multiple crops, including lettuce (hydroponic greenhouse cultivation), red chili (greenhouse cultivation), and Robusta coffee (open-field farming).

The study documented measurable improvements in plant development indicators such as canopy growth, leaf greenness, root development and overall plant vigor.

Importantly, the results demonstrated that conventional fertilizer inputs could be reduced by approximately 25–50% while maintaining comparable crop productivity and quality when the nutrient formulation was applied.

The 67-page university research report provides scientific documentation supporting the fertilizer efficiency and plant response mechanism of the IKUE AgroTech technology.

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Abstract

This study aims to evaluate the effects of the foliar plant nutrient product which contains Humic acid, Phenolic acids, Citric acid, Amino acids, and Growth hormone, on the growth and yield of various plants under different environmental conditions. The experiments were conducted on three types of plants: lettuce (Green Oak and Cos) in a hydroponic system, Janda red chili in a greenhouse, and Robusta coffee in an open field. Each experiment was designed appropriately for its specific conditions, with the findings summarized as follows: Experiment 1: Lettuce in a hydroponic system. The experiment was conducted over four seasons, comparing the use of fertilizers A and B combined with plant nutrient product at varying ratios. It was found that using 100% fertilizer resulted in the highest yield in terms of weight and canopy size for both lettuce varieties. However, reducing fertilizer by 25-50% and supplementing with 25-50% plant nutrient product maintained good yield quality, particularly during the rainy season and late rainy season, where foliar application proved more effective than using a solution. Experiment 2: Janda red chili in a greenhouse. This experiment compared the use of 13-13-21 fertilizer at different rates combined with foliar application of plant nutrient product. The results showed that applying the full fertilizer rate (14 grams/plant) along with Plant nutrient product spraying produced the highest yield in terms of fruit weight, length, and size. However, reducing the fertilizer rate by 25% (10.5 grams/plant) and spraying Plant nutrient product every 7 days reduced costs without significantly affecting yield quality. Experiment 3: Robusta coffee in an open field. This experiment studied the effects of Plant nutrient product on five Robusta coffee varieties and spraying frequencies (every 15 and 30 days). Varieties 3 and 5 responded best to Plant nutrient product application. Spraying Plant nutrient product at a rate of 20 ml every 15 days resulted in the best growth and yield. The study concludes that using Plant nutrient product in combination with fertilizers at appropriate rates can enhance plant growth and yield efficiency across various environments, especially when reducing fertilizer amounts to save costs. Additionally, Plant nutrient product improved leaf greenness and plant vigor in all experiments. However, further studies are recommended to investigate the long-term effects of Plant nutrient product on soil quality and overall yield, as well as to develop specific formulations tailored to each plant type for maximum efficiency.

Keywords: Plant nutrient product, Humic acid, Growth hormone, lettuce, Janda red chili, Robusta coffee

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Government Field Validation Kenya

Additional field validation was conducted in Mombasa County, Kenya (2025) in cooperation with the County Government Department of Agriculture.

The trials compared the IKUE fertilizer with commonly used fertilizers including CAN (Calcium Ammonium Nitrate), DAP, Urea and standard foliar fertilizers.

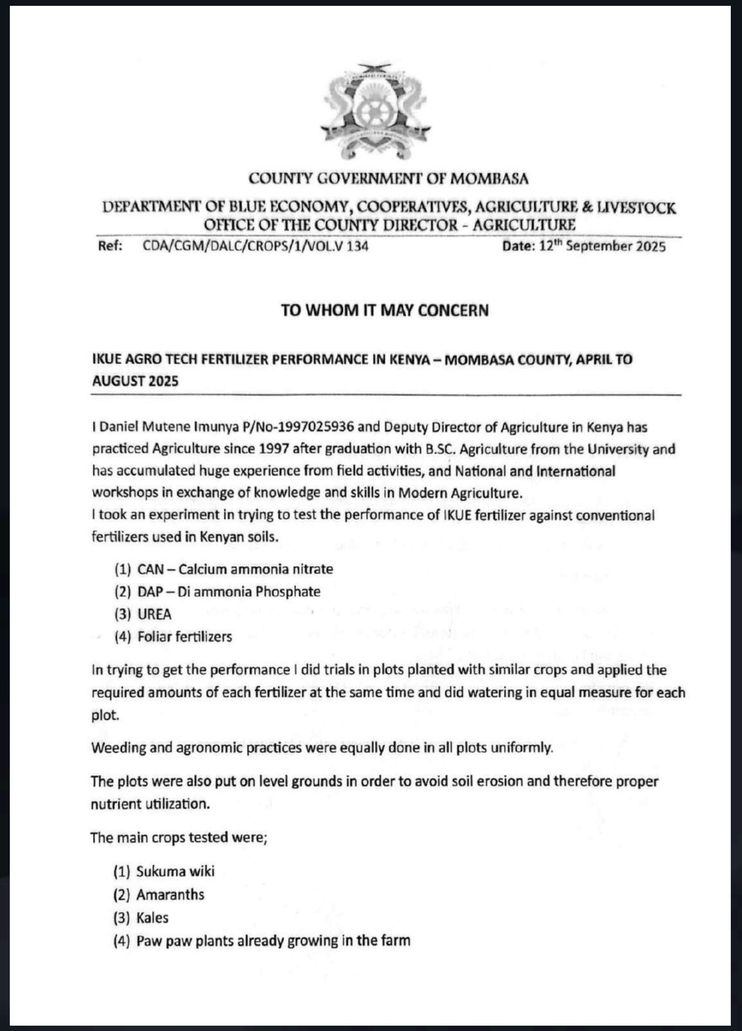
The trials were conducted on crops including Sukuma wiki, Kale, Amaranth and Papaya under comparable farming conditions.

According to the official confirmation issued by the Office of the Deputy Director of Agriculture, the plots treated with the IKUE fertilizer demonstrated stronger plant growth, improved crop health and higher yields compared with conventional fertilizer treatments.

The report further documented recovery effects in plants affected by fungal and bacterial infections, as well as visible soil restoration effects in degraded soils.

In several cases, the trials indicated crop performance reaching up to five times the results obtained with conventional fertilizer treatments.

Based on these findings, the County Department of Agriculture recommended the use and promotion of the IKUE fertilizer technology.



COUNTY GOVERNMENT OF MOMBASA

DEPARTMENT OF BLUE ECONOMY, COOPERATIVES, AGRICULTURE & LIVESTOCK
OFFICE OF THE COUNTY DIRECTOR - AGRICULTURE

Ref: CDA/CGM/DALC/CROPS/1/VOL.V 134 Date: 12th September 2025

TO WHOM IT MAY CONCERN

IKUE AGRO TECH FERTILIZER PERFORMANCE IN KENYA – MOMBASA COUNTY, APRIL TO AUGUST 2025

I Daniel Mutene Imunya P/No-1997025936 and Deputy Director of Agriculture in Kenya has practiced Agriculture since 1997 after graduation with B.SC. Agriculture from the University and has accumulated huge experience from field activities, and National and International workshops in exchange of knowledge and skills in Modern Agriculture.
I took an experiment in trying to test the performance of IKUE fertilizer against conventional fertilizers used in Kenyan soils.

(1) CAN – Calcium ammonia nitrate
(2) DAP – Di ammonia Phosphate
(3) UREA
(4) Foliar fertilizers

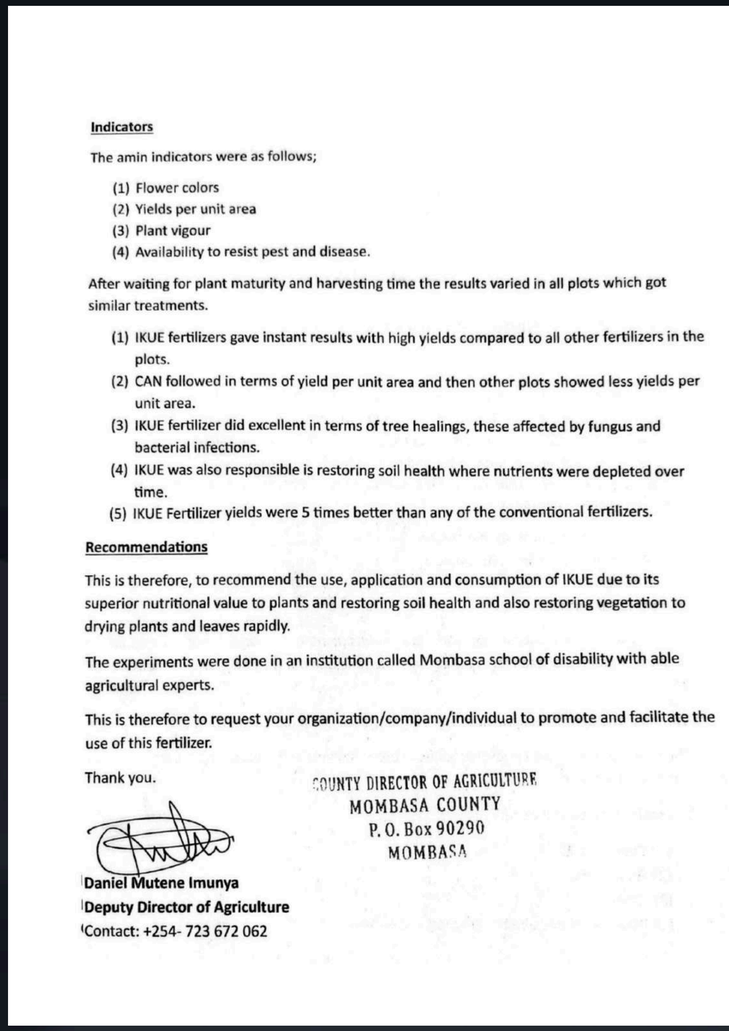
In trying to get the performance I did trials in plots planted with similar crops and applied the required amounts of each fertilizer at the same time and did watering in equal measure for each plot.

Weeding and agronomic practices were equally done in all plots uniformly.

The plots were also put on level grounds in order to avoid soil erosion and therefore proper nutrient utilization.

The main crops tested were;

(1) Sukuma wiki
(2) Amaranths
(3) Kales
(4) Paw paw plants already growing in the farm



Indicators

The amin indicators were as follows;

(1) Flower colors
(2) Yields per unit area
(3) Plant vigour
(4) Availability to resist pest and disease.

After waiting for plant maturity and harvesting time the results varied in all plots which got similar treatments.

(1) IKUE fertilizers gave instant results with high yields compared to all other fertilizers in the plots.
(2) CAN followed in terms of yield per unit area and then other plots showed less yields per unit area.
(3) IKUE fertilizer did excellent in terms of tree healings, these affected by fungus and bacterial infections.
(4) IKUE was also responsible is restoring soil health where nutrients were depleted over time.
(5) IKUE Fertilizer yields were 5 times better than any of the conventional fertilizers.

Recommendations

This is therefore, to recommend the use, application and consumption of IKUE due to its superior nutritional value to plants and restoring soil health and also restoring vegetation to drying plants and leaves rapidly.

The experiments were done in an institution called Mombasa school of disability with able agricultural experts.

This is therefore to request your organization/company/individual to promote and facilitate the use of this fertilizer.

Thank you.

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Practical Field Results

In addition to controlled research and government trials, the fertilizer technology has also been applied in practical farming environments through agricultural distributors and farmer networks.

Field observations and distributor reports consistently indicate:

- increased crop yields compared with conventional fertilizer programs
- improved plant vigor and crop uniformity
- reduced fertilizer requirements per hectare

These practical applications demonstrate the operational effectiveness and scalability of the technology under real agricultural conditions.

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Fertilizer Reduction and Emission

One of the key characteristics of the technology is its ability to improve nutrient uptake efficiency, allowing farmers to achieve comparable or higher yields with significantly reduced fertilizer input.

Reducing fertilizer use directly lowers emissions associated with agricultural fertilization, including:

- CO_2 emissions generated during fertilizer production, processing and transportation
- N_2O emissions produced in soils as a result of nitrogen fertilizer application

Because nitrous oxide (N_2O) is one of the most significant greenhouse gases in agriculture, improved fertilizer efficiency can contribute to measurable reductions in agricultural greenhouse gas emissions.