



**Growing smarter:
How technology is
transforming Kenya's
horticultural sector**

Kenya's horticulture sector is one of the country's most important economic pillars. In 2024, the sector supported over four million jobs and contributed Ksh 136.6 billion in export earnings **P.26-29**

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Can we *realistically* do without pesticides?

The current conversation around pesticides in Kenya is loud, urgent, and often deeply unsettling. Headlines warn of poison on our plates and chemicals in our soils, leaving an impression that agriculture itself has strayed into dangerous territory. But beneath the alarm lies a more complicated truth—one that demands we ask a harder, more honest question: in a tropical country like Kenya, can we realistically do without pesticides?

Kenya's agricultural success is rooted in a climate that is both a blessing and a burden. The same warmth and humidity that allow crops to flourish year-round also create ideal conditions for pests and diseases. From invasive threats like False Codling Moth and Persea mites to destructive pathogens such as the avocado sunblotch virus, farmers are in a constant battle to protect their crops.

Many of these threats are not native; they are imported through global trade, and once established, they spread quickly. In this ecological reality, pesticides are not simply optional inputs—they are, for now, part of the production equation that sustains yields, export standards, and farmer livelihoods.

This does not mean pesticide use is beyond scrutiny. On the contrary, Kenya has built one of the more robust regulatory systems in the region through the Pest Control Products Board, which evaluates, registers, and withdraws products in line with international standards. As its Managing Director Fred Muchiri

The future of agriculture in the tropics will not be built on fear or denial, but on knowledge, discipline, and the courage to confront complexity with science

“

By CATHERINE RIUNGU



ri has acknowledged, the greater threat often lies outside this system, where unregistered and sometimes hazardous products find their way across borders, undermining safeguards and putting both farmers and consumers at risk.

Yet even within the formal system, the real challenge is not just what is used, but how it is used.

Misapplication remains a persistent problem, particularly in smallholder settings where observance of pre-harvest intervals and use of protective gear is inconsistent.

This is where industry efforts, led by organizations such as the Agrochemicals Association of Kenya, are increasingly important.

Training farmers on safe use and promoting innovations like Spray Service Providers—trained professionals who handle pesticide application—represent a shift toward greater accountability and safety in the field.

At the same time, the industry itself is evolving. Multinational companies are continuously developing new, more targeted molecules designed to reduce environmental impact and delay resistance, while phasing out older, more hazardous products.

Alongside this, a growing number of biological solutions—derived from naturally occurring microorganisms—are emerging in Kenya, offering safer alternatives that align with global demand for sustainable agriculture. These are not replacements yet, but they are part of a broader transition toward integrated pest management.

So can Kenya do without pesticides? Not entirely—not today, and not without risking significant disruption to food production and economic stability. But that is not the measure of progress. The real question is whether Kenya can use pesticides more wisely, more safely, and more transparently. That requires not just strong regulation and industry responsibility, but also balanced, science-driven public discourse.

Because in the end, the issue is not simply about chemicals. It is about choices—how we manage risk, protect livelihoods, and feed a nation in a challenging environment. As the debate continues, one principle should guide it: “The future of agriculture in the tropics will not be built on fear or denial, but on knowledge, discipline, and the courage to confront complexity with science.” ■

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From coconut waste to cornerstone of modern horticulture



Once considered a low-value by-product of the coconut industry, cocopeat—also known as coir pith—has evolved into a premium substrate now widely used in greenhouses, nurseries and high-value flower farms across the world.

Derived from the husk of coconuts, cocopeat sits at the intersection of sustainability and performance. Unlike traditional peat moss, which is mined from fragile ecosystems and raises environmental concerns, cocopeat is renewable, biodegradable and makes productive use of agricultural waste. For an industry increasingly under scrutiny for its environmental footprint, this alone presents a compelling case for its adoption.

Beyond its sustainability credentials, cocopeat delivers strong agronomic performance. It offers a near-ideal balance of water retention and aeration—two critical factors in plant growth. Its structure enables

it to hold moisture efficiently while maintaining sufficient air space around the roots, creating optimal conditions for root development. This is particularly valuable in floriculture crops such as roses, where root health directly influences stem quality, vase life and overall yield. In intensive production systems, including hydroponics, cocopeat's uniformity and predictability make it especially attractive to commercial growers.

Another defining feature is its buffering capacity. Cocopeat can retain and gradually release nutrients, helping to stabilise plant feeding regimes. This reduces nutrient leaching and allows for more precise fertigation strategies—an important

consideration for large-scale operations focused on maximising efficiency while controlling input costs.

The medium also plays a role in disease management. When properly processed and sterilised, cocopeat provides a clean growing environment free from soil-borne pathogens. This reduces the risk of early-stage crop losses and supports integrated pest management programmes by lowering reliance on chemical controls.

For regions such as East Africa, where floriculture remains a key export sector, cocopeat aligns closely with the ongoing shift towards soilless cultivation. These systems not only improve productivity but also address long-standing challenges such as soil fatigue, limited arable land and increasing demands for traceability in international markets. Its lightweight nature further enhances its appeal, simplifying handling and logistics across the value chain.

Cocopeat's rise, however, is rooted not just in its performance, but in the sophistication of its production process. Its journey from coconut waste to a high-performance substrate is a story of careful processing and refinement.

The process begins with the coconut husk, the fibrous outer shell that surrounds the nut. In major coconut-producing countries such as India, Sri Lanka and Philippines, husks are collected in large volumes as a by-product of coconut processing. While traditionally used for ropes and mats, the husk is now processed with far greater precision to extract different components, including long fibres, chips and the fine pith that forms cocopeat.

The first stage involves retting or soaking, where husks are immersed in water to soften the material and loosen fibres. In more advanced operations, mechanical decorticators are used to speed up the process and



Cocopeat can retain and gradually release nutrients, helping to stabilise plant feeding regimes. This reduces nutrient leaching and allows for more precise fertigation strategies—an important consideration for large-scale operations focused on maximising efficiency while controlling input costs.

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improve consistency. The softened husks are then crushed and milled, separating the coarse fibres from the finer pith.

At this stage, the material requires further refinement before it is suitable for horticultural use. One of the key challenges is its natural salt content, particularly sodium and potassium, which can be harmful to plants. To address this, cocopeat undergoes extensive washing to remove excess salts. High-quality products are further buffered—commonly using calcium-based treatments—to stabilise the material and make it safe for sensitive crops.

Following this, the cocopeat is dried, sieved and graded to achieve uniform particle size, ensuring consistent water retention and aeration properties. It is then compressed into blocks, briquettes or grow bags for efficient transport. When rehydrated, these compact forms expand several times in volume, making them highly practical for export-oriented supply chains.

Quality control is critical throughout this process. Parameters such as electrical conductivity (EC), pH, moisture content and fibre composition are carefully monitored to ensure the final product meets the stringent requirements of commercial horticulture.

Nowhere is the value of cocopeat more evident than in nursery production systems, where precision and uniformity are essential from the very beginning of the crop cycle.

In commercial nurseries, cocopeat forms the foundation of modern propagation systems. It is typically used in plug trays or seedling trays, either on its own or blended with materials such as perlite or vermiculite to optimise aeration. Its fine, uniform texture ensures excellent seed-to-media contact, a critical factor in achieving high and consistent germination rates.

Once irrigated, cocopeat distributes and retains moisture evenly across the growing medium. This creates a stable and uniform environment »

Cocopeat has become one of the most important growing media underpinning modern horticulture and floriculture, particularly in export-driven sectors where consistency, sustainability and plant health are non-negotiable.

By CATHERINE RIUNGU

Cocopeat has become one of the most important growing media underpinning modern horticulture and floriculture, particularly in export-driven sectors where consistency, sustainability and plant health are non-negotiable.



» for seedlings, reducing variability and resulting in more synchronised crop development. For nurseries managing large volumes of plants, this uniformity simplifies operations such as transplanting, grading and scheduling.

Root development is another area where cocopeat excels. Its structure supports the formation of strong, fibrous root systems by allowing easy root penetration while maintaining adequate oxygen levels. This results in healthier, more resilient plants that establish quickly when transplanted into the field or greenhouse.

Cocopeat also integrates seamlessly into fertigation systems. Acting as both a carrier and buffer for nutrients, it helps regulate nutrient availability and prevents sudden fluctuations that can stress young plants. This is particularly important during early growth stages, where consistency is key to achieving uniform, high-quality outputs.

Hygiene is a further advantage. Unlike field soil, properly processed cocopeat is free from weeds, pests and soil-borne diseases, significantly reducing the risk of issues such as damping-off. This allows nurseries to operate cleaner systems with reduced dependence on chemical interventions.



Cocopeat also integrates seamlessly into fertigation systems. Acting as both a carrier and buffer for nutrients, it helps regulate nutrient availability and prevents sudden fluctuations that can stress young plants. This is particularly important during early growth stages, where consistency is key to achieving uniform, high-quality outputs.



Operationally, cocopeat offers additional efficiencies. Compressed blocks can be stored dry and expanded only when needed, improving inventory management. Its lightweight nature makes handling easier, especially in large-scale nurseries where labour efficiency is a critical factor.

In floriculture nurseries producing crops such as roses, carnations and seasonal flowers, these advantages translate directly into quality. Cuttings root more uniformly, seedlings develop consistently, and the final planting material meets the high standards demanded by commercial growers and export markets.

Ultimately, cocopeat represents more than just an alternative growing medium. It enables growers to standardise one of the most variable elements in plant production and replace uncertainty with control. As the horticulture industry continues to evolve—driven by sustainability pressures, resource efficiency and market demands—cocopeat stands out as a key enabler of modern, resilient production systems.

For growers, nurseries and suppliers alike, its value lies not only in what it is, but in what it makes possible: cleaner production, consistent quality and a more sustainable path forward for the industry. ■

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Kenya's flower industry bleeds millions as Middle East conflict disrupts air cargo

Kenya's floriculture industry is facing one of its most severe logistical shocks in recent years, with exporters incurring millions in losses as the escalating Middle East conflict disrupts critical air cargo routes and drives up freight costs.



In a press statement, the Kenya Flower Council, through its Chief Executive Officer Clement Tulezi, warned that the crisis is already undermining the sector's competitiveness, threatening jobs, and straining supply chains that underpin one of Kenya's top foreign exchange earners. Air cargo capacity on key routes serving Kenya has dropped by up to 30 percent, following widespread flight cancella-

TOP PHOTO: Kenya Flower Council CEO Clement Tulezi (left) with Kenya Flower Council Chief Operations Officer (COO) Catherine Mukoko at Sarova Panafric Hotel in Nairobi.

Over the past three weeks alone, exporters have lost an estimated USD 4.8 million (KES 220 million). Of this, USD 2.1 million is attributed to flowers that perished before reaching markets, while USD 2.7 million reflects price reductions due to delayed arrivals and compromised quality.



tions, rerouting, and airspace restrictions linked to the conflict. Globally, between 18 and 20 percent of air freight capacity has been taken offline, compounding the crisis for exporters reliant on timely delivery of perishable goods. At the same time, freight

costs have surged to as high as USD 5.30 per kilogram, driven by longer flight paths, higher fuel prices, and additional war-risk surcharges. Some trade corridors have recorded cost increases exceeding 20 percent. Shipment delays of up to 48 hours are now common—delays

that are particularly damaging for fresh flowers, where even minor disruptions can significantly reduce quality and market value. Over the past three weeks alone, exporters have lost an estimated USD 4.8 million (KES 220 million). Of this, USD 2.1 million is attributed to flowers that perished before reaching markets, while USD 2.7 million reflects price reductions due to delayed arrivals and compromised quality. Farms heavily dependent on Middle Eastern markets have been hardest hit, with some reporting revenue declines of up to 75 percent. If the disruption persists, weekly losses could exceed USD 1.3 million. While the Middle East accounts for between 10 and 15 percent of Kenya's flower exports, its role as a global logistics hub makes the impact far wider. Gulf-based airlines and transit corridors are critical in connecting Kenya to European markets.





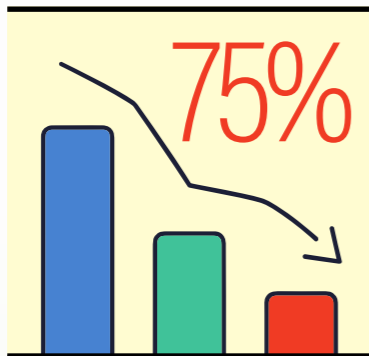
» With these routes disrupted, flights to Europe are being rerouted, increasing transit times and costs. Freight rates to Europe have risen sharply—by more than 20 percent in some cases—while reliability has declined, further eroding Kenya's competitive edge.

The floriculture sector generated approximately USD 835 million in export earnings in 2024 and supports hundreds of thousands of jobs across the value chain.

According to the Council, the current crisis is not affecting production on farms but is severely disrupting the logistics backbone that enables exports. Prolonged instability could therefore translate into job losses, reduced foreign exchange earnings, and broader economic strain.

Amid mounting pressure, the industry is calling on the government to urgently release pending VAT refunds amounting to KES 10 billion.

"These funds are critical working capital needed to sustain operations, pay workers, and meet export commitments,"



Farms heavily dependent on Middle Eastern markets have been hardest hit, with some reporting **revenue declines of up to 75 percent**. If the disruption persists, weekly losses could exceed USD 1.3 million.

the Council noted, warning that delayed refunds are exacerbating cash flow constraints at a time when exporters are already grappling with rising costs and reduced revenues.

Failure to act, the Council cautioned, could lead to business closures and long-term damage to one of Kenya's most important export sectors.

With air freight capacity expected to remain tight and costs potentially rising further, the situation is increasingly drawing comparisons to the disruptions

experienced during the COVID-19 pandemic.

While industry players are exploring mitigation measures—including alternative routes, ad hoc cargo capacity, and closer coordination with logistics partners—the Council maintains that these efforts alone will not be sufficient without swift policy intervention.

For now, Kenya's flower industry remains at the mercy of global geopolitics—its resilience once again being tested by forces far beyond the farm gate. ■

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Flamingo Horticulture Expansion

Flamingo Horticulture Kenya Ltd. recently commenced a major expansion project at its Naivasha facility. This milestone promises to strengthen Kenya's horticultural export platform, unlock thousands of jobs, and deepen private capital investment in agriculture.

BY WANJIKU MWANGI

The launch, presided over by Agriculture and Livestock Cabinet Secretary Mutahi Kagwe, came amid government policy reforms aimed at boosting the competitiveness of Kenya's agricultural exporters and easing long-standing cash-flow constraints in the sector.

CS Kagwe, led the ceremony alongside Abubakar Hassan, Principal Secretary in the State Department for Investment Promotion. The event brought together government officials, trade representatives, and industry leaders, showing strong cooperation between the public and private sectors.

The expansion, valued at US\$14 million (US\$14 million), aims to grow production capacity and create more jobs. Flamingo Flowers expects the project to generate about 2,000 new jobs, adding to the company's workforce and supporting local communities

around Naivasha.

During the event, Kagwe spoke about the government's commitment to the horticulture sector. He said the government would speed up VAT refunds for exporters and improve market access for Kenyan produce.

"We will work closely with exporters to ensure timely VAT refunds and open more markets for Kenyan products," Kagwe said.

Officials noted that horticulture remains one of Kenya's top foreign exchange earners, with flowers, fruits, and vegetables forming a large share of exports. The sector also supports thousands of jobs across farms, logistics, and related services.

The Principal Secretary Abubakar Hassan said the government is working together to remove obstacles that discourage investors. "Kenya's competitiveness depends on how fast we convert policy into action. Exporters are central to our growth story and we will support them.

Others who attended included senior government officials, regulators, industry leaders and diplomats attended the event and they included Acting British High Commissioner, Invest Kenya officials, KEPHIS, KEPROBA and exporter associations.



"We will work closely with exporters to ensure timely VAT refunds and open more markets for Kenyan products," Kagwe said.



From Raw Exports to Value-Added Products

Flamingo Horticulture, a subsidiary of the global Flamingo Group International Ltd, has long been a significant player in Kenya's flower export industry. Over the years, the company has built deep capacity in rose culti-

vation and packing for markets in the United Kingdom and Europe, with operations spanning thousands of hectares across Naivasha and other highland regions.

This latest phase of investment marks a strategic shift, rather than exporting primarily raw stems, Flamingo is scaling up packed-at-source bouquets, a value-added product that allows Kenya to retain more of the economic benefits of its horticultural exports. By doing so, the company aims to bypass European auction houses and improve export revenue margins.

Olivia Streatfeild, Group CEO of Flamingo Group International, highlighted the significance of this transformation: "This collaboration between Flamingo, the Government of Kenya, and our UK and European retail customers creates a formidable growth opportunity for Kenya's bottom-up economy."

Job Creation and Community Impact

The expansion is expected to create around 2,000 new direct jobs, supporting an additional 12,000 dependents across the horticulture value chain. These positions will be centered not only on cultivation and >>



» packing but also on new functions tied to quality control, logistics, and compliance with global market standards.

For a country where horticulture is a cornerstone of export revenue, generating billions in foreign exchange and directly employing tens of thousands of workers, such job creation is significant. Beyond direct employment, the project is also projected to benefit out growers, smallholder partners, and local supply networks clustered around Naivasha.

Strengthening Quality Standards and Market Access

The government's focus on export facilitation also extends to regulatory compliance and quality assurance. The Kenya Plant Health Inspectorate Service (KEPHIS) recently reported that the floriculture industry continues to maintain strong phytosanitary compliance, exporting more than 60 million flower stems daily to global markets with minimal interceptions.

It is through aligning quality systems with stringent international requirements that Kenya aims to safeguard market access in the EU and UK while building trust with international retailers, a crucial foundation for Flamingo's expansion strategy.

The Flamingo Naivasha expansion underscores Africa's largest economy's evolving agricultural narrative: moving from commodity-driven export models toward integrated, value-added production that captures a greater share of the global value chain. It also reflects an increasingly collaborative investment environment, where private capital, government incentives, and international market partnerships converge to drive growth.

Officials noted that horticulture remains one of Kenya's top foreign exchange earners, with flowers, fruits, and vegetables forming a large share of exports. The sector also supports thou-



sands of jobs across farms, logistics, and related services.

The ceremony also highlighted strong trade links between Kenya and the United Kingdom. Among the guests were Ed Barnett, Acting British High Commissioner to Kenya, and John Humphrey, His Majesty's Trade Commissioner for Africa. Representatives from the British Chamber of Commerce also attended.

In a statement shared by the British High Commission, the expansion was described as part of a wider effort to deepen trade relations between the two countries.

"Sustainable flower farming creates jobs and strengthens Kenya's export competitiveness," the statement said. "This supports our ambition to double Kenya-UK trade by 2030."

The Fresh Produce Exporters Association of Kenya, represented by its Chief Executive Officer Hosea Machuki, also took part in the launch. Machuki said the project showed steady investor interest in Kenya's horticulture sector.

Wider impact on the sector

Industry players say the Flamingo expansion reflects continued confidence in Kenya's position as a major supplier of high-value horticultural products. The project also aligns with Fair Trade standards, which remain important for global buyers.

Analysts note that such investments help Kenya maintain its role in global flower markets while supporting employment and export growth. They also say strong cooperation between government and investors will shape the sector's future.

With the new expansion underway, Flamingo Flowers adds momentum to a sector that remains central to Kenya's economy and trade outlook. ■

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Avocado Sunblotch Viroid: The silent Pandemic in Kenyan Orchards

Kenya's avocado industry is facing what many growers are beginning to describe in hushed conversations as a silent pandemic creeping through orchards, nurseries and packing systems with frightening speed. What started as isolated observations of strange fruit markings, cracked bark and weakening trees is now emerging as a potentially devastating phytosanitary threat with the capacity to reshape the country's booming avocado sector if urgent containment measures are not taken.

BY JAMES MWANGI

The disease is Avocado Sunblotch Viroid (ASBV) — a tiny but destructive pathogen that attacks avocado trees from within, slowly crippling productivity, deforming fruit and weakening branches year af-

ter year until orchards become commercially unviable.

What is causing growing alarm within the industry is not merely the presence of the disease, but the possibility that it may already be far more widespread than publicly acknowledged.

While official communication on the extent of infections remains cautious, KEPHIS has admitted the disease is present in Kenya. Behind the scenes however, growers, nursery operators and exporters are increasingly speaking of mounting anxiety, hurried inspections and quiet destruction of infected blocks.

Sources within the industry say some large commercial growers have already uprooted sections of orchards after suspecting or confirming infections. For now, most are unwilling to speak publicly. The fear is understandable. In a sector heavily dependent on export confidence, even whispers of widespread infection can trigger panic among buyers and investors.

Yet silence may no longer be

possible.

Industry insiders allege that infected propagation material imported from South Africa may have introduced the disease into Kenya through a well-known nursery operation whose seedlings have since found their way into farms across multiple avocado-growing counties. If true, the implications are enormous.

Unlike pests that announce themselves dramatically, ASBV moves quietly. A farmer may plant apparently healthy seedlings and only begin noticing strange symptoms years later — streaked twigs, discoloured

fruit, cracked bark and declining yields. By then, infected material may already have been distributed further through grafting, pruning tools, pollen or nursery stock.

That is what makes the disease particularly terrifying for growers.

It hides. And it spreads.

Experts warn that symptomless carrier trees can continue serving as infection reservoirs while appearing outwardly healthy. A nursery can unknowingly multiply thousands of infected seedlings. A farmer can establish an orchard worth millions only to discover years later that productivity is collapsing because the disease was present from the start.

The economic consequences can be brutal. Studies from South Africa, where the disease was first identified on the African continent, paint a grim picture. Yield losses can reach 27 percent in the first year after infection, 50 percent in the second year and up to 80 percent by the third year. For an industry that has become one of Kenya's horticultural success stories, such losses could ripple far beyond individual farms.

Kenya has aggressively expanded avocado acreage in recent years, driven by soaring export demand from Europe, China and the Middle East. Thousands of smallholder farmers have invested heavily in Hass avocado production, often encouraged by lucrative returns and strong international appetite.

But the rapid expansion has also created vulnerabilities.

The explosive demand for seedlings triggered an equally rapid mushrooming of nurseries, some highly professional, others poorly regulated. In the race to meet market demand, questions are now emerging over traceability, mother block certification and phytosanitary oversight.

And it is the smallholder farmer — the backbone of Ken-

ya's avocado industry and the largest source of export fruit — who may now be standing directly in the path of a crisis many still do not even understand.

Across avocado-growing regions, countless farmers are reportedly watching trees weaken and fruits develop strange markings without knowing what is happening. Some blame weather patterns. Others suspect fertiliser problems, fungal infections or poor soil nutrition. Many have never heard of Avocado Sunblotch Viroid.

That ignorance may be one of the greatest dangers facing the industry.

While large commercial farms may have access to laboratory testing, agronomists and technical support, smallholders often rely on local agrochemical advice, informal nursery networks and word-of-mouth diagnosis. Infected fruits may still be harvested and sold. Infected scions may still be grafted. Infected seedlings may still be exchanged between neighbours and farmer groups completely unknowingly.

The disease may therefore already be moving silently through the very foundation of Kenya's avocado supply chain.

For many small-scale growers, avocado farming is no longer just agriculture. It is school fees, medical cover, loan repayment and household survival. Entire rural economies in counties that embraced avocado production now depend heavily on the crop's export success.

If ASBV spreads widely among uninformed farmers without aggressive awareness campaigns and containment measures, the human and economic fallout could be devastating.

Growers are beginning to ask difficult questions. How many infected seedlings may already be in circulation? How many orchards are silently carrying the viroid? Could Kenya be sit-

27%

Yield losses can reach 27 percent in the first year after infection.

50%

Yield losses can then increase to 50 percent in the second year after infection.

80%

Yield losses can reach up to 80 percent by the third year after infection.

ting on a phytosanitary crisis large enough to threaten export credibility?

The fear is no longer confined to agronomists and researchers. It is now spreading through boardrooms, farmer WhatsApp groups and export circles.

Some growers reportedly fear declaring infections openly because uprooting orchards represents catastrophic financial loss. Others worry that disclosure could affect export relationships or damage land values. Meanwhile, smallholder farmers — many of whom may never have heard of ASBV — remain the most vulnerable.

The disease itself can manifest in disturbing ways. Fruits develop irregular yellow, white or reddish sunken streaks that make them unmarketable. Young twigs show elongated discoloured scars. Older branches develop rough cracked bark instead of the normal smooth texture. Branches weaken and bend abnormally. Infected trees slowly decline in vigour and productivity.

But perhaps the most chilling reality is that there is currently no cure.

Once a tree is infected, experts say the only reliable option is removal and destruction to prevent further spread.

That reality is now forcing uncomfortable conversations within Kenya's avocado value chain. The sector's future may depend not just on expanding acreage and securing markets, but on confronting an invisible enemy already embedded within parts of the production system.

For now, many questions remain unanswered. How extensive is the spread? Which regions are most affected? Are current nursery certification systems sufficient? And are growers prepared for the painful decisions that containment may require?

What is becoming increasingly clear, however, is that the industry can no longer afford complacency. ASBV may not attract the dramatic headlines of locust invasions or export ban. ■



My 100% loss onion farming

In 2016, I decided to begin a side hustle in farming. My chosen crop was bulb onions. I had no prior knowledge of onion farming, so I relied heavily on someone who later became my manager. At first, everything looked promising. The project started, and I could almost see millions flowing into my bank account.



BY JOY MURUNGI

Because my farm was far from where I lived, I couldn't travel often, though I tried. Each time, my manager had a convincing reason why I should send more money—fertilizer, chemicals, labor, irrigation. I trusted him. What I didn't know was that he was a serious gambler, betting with my money. Whenever I asked for progress, he sent me pictures of a neighboring farm, making me believe my onions were thriving.

One day, he asked for more



money. Instead of sending it, I told him I would visit the farm the next day and bring the funds in person. That was the turning point. He disappeared. When I arrived, I found his friend, who confessed that my onions were still stuck in the nursery, overgrown and neglected. I almost collapsed when I realized how much I had already spent.

Still determined, I hired a new manager and pushed forward. I invested about KSh 300,000, hoping to recover during harvest. But fate struck again—the crop dried up completely, and I lost 100 percent of my investment.

It has taken me ten years

Each time, my manager had a convincing reason why I should send more money—fertilizer, chemicals, labor, irrigation. I trusted him. What I didn't know was that he was a serious gambler, betting with my money. Whenever I asked for progress, he sent me pictures of a neighboring farm, making me believe my onions were thriving.

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to share this story. If you want to laugh, you are free. My mistakes were clear: I over-trusted one person, relied on unverified updates, and failed to diversify oversight. Today, I advise anyone venturing into farming as a side hustle to demand accountability. Let your managers send GPS-tagged photos, visit the farm regularly, and never depend on one source of information.

The truth is, bulb onion farming can be highly profitable if managed well. One acre can yield 15–20 tons, translating to about KSh 500,000–700,000 in revenue. With costs ranging between KSh 150,000–230,000 per acre, the net profit can be KSh 350,000–500,000. Two acres, properly managed, can therefore bring in close to a million shillings in net profit.

My journey was painful, but it taught me resilience. Farming is not just about crops—it's about systems, trust, and discipline. If you treat it as a business, with checks and balances, it can transform your life. If you treat it casually, it can drain you completely. ■

Precision Partnership: How Lima Labs and Chrysal Africa are advancing data-driven floriculture



Growing up in Nanyuki — one of Kenya's high-altitude flower production zones — Jasper Simpkin was surrounded by farms. As a young boy, he saw first-hand how tough it was to be a grower: volatile production cycles, shifting markets, and the painful reality of waste.

One memory stayed with him. Standing outside his uncle's farm, he watched a huge pile of rejected roses being dumped. Perfectly grown flowers, discarded. "There must be something I can do,"

If we can build solutions that work here, we can do it anywhere in the world

The CEO & Co-founder of Lima Labs, Jasper Simpkin



he told himself.

Years later, that moment would shape the founding vision of Lima Labs.

The CEO & Co-founder of Lima Labs, says those early experiences continue to inform the company's mission to bring predictive intelligence into floriculture. After studying engineering and data science in London — where he worked for a major technology company — he returned to Kenya with a mission to solve some of agriculture's toughest problems using tech-

nology.

Rose farming, he explains, is one of the most complicated supply chains in agriculture. It is highly perishable, production is volatile, and markets are even more unpredictable. That complexity made roses the ideal testing ground. "If we can build solutions that work here, we can do it anywhere in the world," he says.

That vision has now entered a new phase through a strategic partnership with Chrysal International. Under the collaboration, Chrysal will serve as the official global agent for Lima Labs' innovations in floriculture, supporting growers with advanced data-driven tools designed to improve forecasting accuracy, quality management, and operational efficiency.

For Niels van Doorn, General Manager of Chrysal Africa, the partnership reflects the industry's growing need for precision and predictability. "As growers face increasing pressure from rising input costs and shift-

As growers face increasing pressure from rising input costs and shifting market dynamics, access to better data for decision-making becomes critical. Our role is to ensure these technologies are accessible, practical and embedded within everyday farm operations, through precision-farming solutions

Niels van Doorn, General Manager of Chrysal Africa



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patrick.odongo@chrysal.com, +254 706 688 024

CHRYSAL

» ing market dynamics, access to better data for decision-making becomes critical,” he says.

“Our role is to ensure these technologies are accessible, practical and embedded within everyday farm operations, through precision-farming solutions

Yield Predict: From guesswork to data precision

At the core of the collaboration is Yield Predict, Lima Labs’ advanced forecasting technology capable of delivering up to 95 percent yield prediction accuracy.

Traditionally, many flower farms have relied on manual estimation methods, where accuracy levels could fall as low as 50 percent. Such gaps often translate into oversupply, missed orders, logistical inefficiencies, and financial losses.

Yield Predict, introduced five years ago and now adopted across major flower-growing regions in Kenya, replaces and improves visibility and yield prediction with integrated data intelligence.

Yield Predict combines greenhouse crop data, environmental conditions, and historical production patterns with machine learning models to generate forward-looking forecasts

This enables proactive crop management rather than reactive intervention.

By producing actual predictive harvest data, farms gain early visibility into upcoming supply, allowing them to match supply commitments with projected production, plan workforce requirements in advance, coordinate logistics and flight bookings more accurately, and strategically time product release into target markets.

Forecasts generated over a four-week planning horizon provide management teams with critical insights into projected market volumes, labor allocation, greenhouse system performance, anticipated quality



By producing actual predictive harvest data, farms gain early visibility into upcoming supply, allowing them to match supply commitments with projected production, plan workforce requirements in advance, coordinate logistics and flight bookings more accurately, and strategically time product release into target markets.

levels, and flight space requirements based on expected yields. This extended forecasting window enables timely logistical and financial decision-making while reducing last-minute disruptions.

For Simpkin, the impact lies in the alignment it creates across the value chain. Using data to guide decisions improves yield,

reduces waste, enhances quality predictability, and optimizes supply chain coordination. “When data drives decisions, everyone wins,” he notes.

Vaselife AI: Predicting rose quality before it is harvested

Beyond yield forecasting, is a new product, Vaselife AI, a system focused on flower quality

and vase life prediction.

Using advanced environmental sensors that monitor a plethora of variables, including but not limited to humidity, sunlight, and temperature, the technology evaluates growing conditions and predicts their likely impact on final flower performance.

It not only draws a quality assessment, but eventually helps spray regime & dip planning – to be able to be more precise in what to spray & dip, and when. The goal is to increase the quality of the flowers, and reduce the amount of chemicals used.

Van Doorn notes that maintaining consistent post-harvest performance is central to grower competitiveness. “Quality consistency and vase life reliability are directly linked to market confidence,” he says.

“By combining predictive production tools with quality analytics, we are helping growers strengthen both planning and performance.”

From pilot to scalable platform

Lima Labs initially deployed its technology on a single flower variety within one farm. Now, lima has expanded to almost 200 varieties across multiple farms, demonstrating adaptability and scalability.

Growers using the platform report achieving up to 95 percent prediction accuracy in flower production and quality metrics, with performance improving as datasets expand and machine learning models refine.

The technologies have also shown applicability beyond floriculture, reinforcing their broader agricul-



tural potential.

As climate unpredictability intensifies and global competition tightens, precision forecasting and data-driven management are increasingly becoming operational necessities rather than optional enhancements.

Through this partnership, Lima Labs provides the techno-

logical backbone while Chrysal Africa leverages its regional presence and established grower relationships to accelerate adoption across the sector.

Together, they are positioning precision agriculture not as a future concept, but as an immediate strategic tool for Africa’s flower industry. ■



Mount Elgon Orchards earns top honours in workplace safety

Mount Elgon Orchards Ltd has been recognised as the Best Company in Occupational Health and Safety (OHS), a distinction that underscores the grower's commitment to worker wellbeing and reinforces a broader shift within Kenya's horticulture sector toward responsible production.

The award places the company among industry leaders setting the pace on workplace safety—an area that is rapidly becoming as critical as yield and quality in global fresh produce markets. As scrutiny intensifies around labour practices, recog-

niton of this nature signals that Kenyan growers are increasingly aligning with international expectations.

Beyond compliance, Mount Elgon Orchards' achievement reflects a deliberate investment in systems that protect workers and embed safety into daily op-

erations. From structured training programmes and consistent use of protective gear to internal audits and adherence to certification standards, the recognition points to a culture where safety is integrated rather than imposed.

The announcement has drawn warm reactions across the horticulture community, with peers and stakeholders highlighting both the significance of the award and its wider implications.

"This is the kind of leadership the industry needs—showing that productivity and worker welfare can go hand in hand," noted one industry professional in response to the news.

"Well deserved recognition. Setting the bar high for others in the sector," added another, reflecting a sentiment echoed across multiple congratulatory messages.

Others pointed to the ripple effect such recognition can

When companies prioritise safety at this level, it strengthens confidence across the entire value chain—from workers to international buyers.

“

have:

"When companies prioritise safety at this level, it strengthens confidence across the entire

value chain—from workers to international buyers."

These reactions mirror a growing consensus within the sector: that occupational health and safety is no longer a back-end compliance issue, but a front-line business priority.

For Kenya's export horticulture industry, the implications are significant. European and other international markets are increasingly demanding transparency around labour conditions, with audits extending beyond product quality to include ethical and social standards. Companies that demonstrate strong OHS performance are therefore better positioned to maintain market access and build long-term buyer trust.

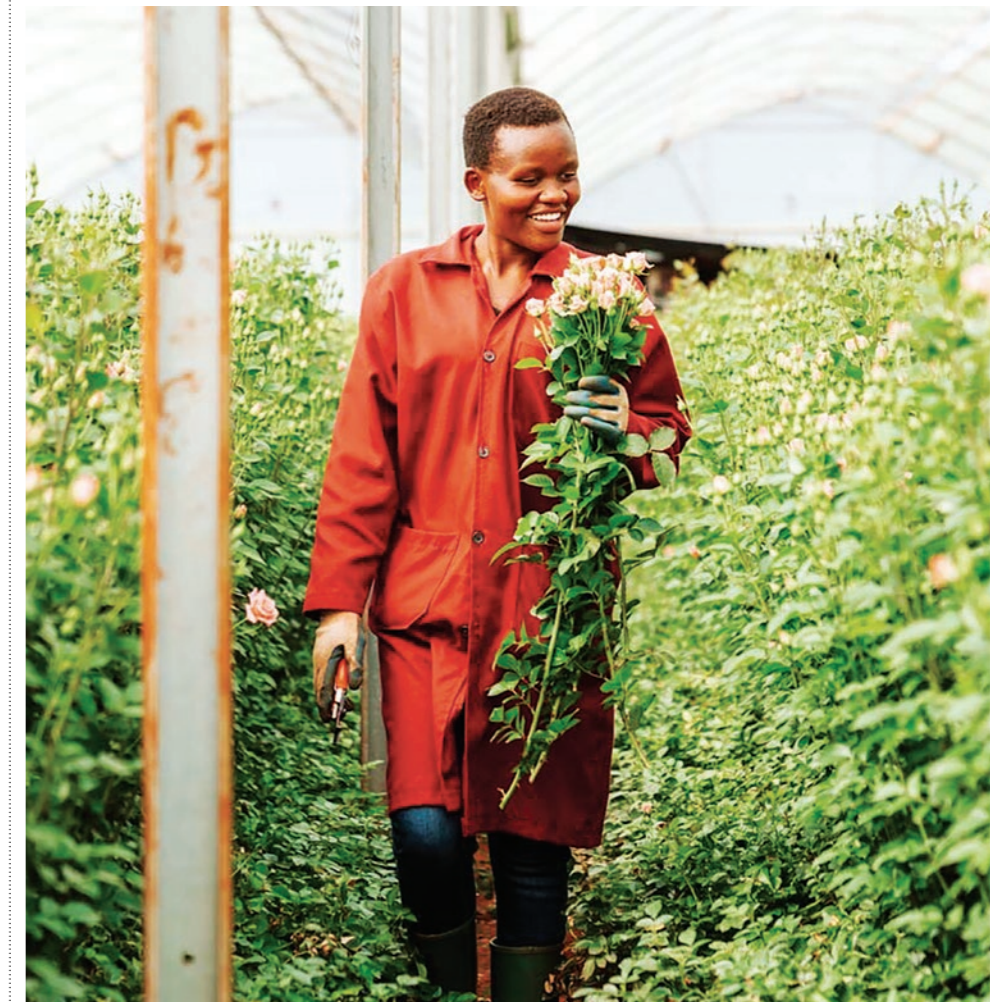
At a national level, achievements such as this contribute to reshaping perceptions of Kenya as a sourcing destination—highlighting progress and reinforcing the country's reputation for

responsible farming practices.

There is also a clear business case. Improved workplace safety is closely tied to higher productivity, lower staff turnover, and stronger workforce morale. In labour-intensive operations such as floriculture and fresh produce, this translates into both operational efficiency and sustained quality.

Mount Elgon Orchards' recognition, therefore, is more than a company milestone—it reflects a broader evolution in how horticultural enterprises are managed. As expectations continue to rise, the sector is steadily moving toward a model where caring for people is inseparable from growing products.

The message from both the award and the industry response is clear: the future of horticulture will be defined not only by what is grown, but by how it is grown—and how well the people behind it are protected. ■





Mount Elgon Orchards eyes SEZ status in strategic expansion drive

Mount Elgon Orchards Ltd has announced plans to transition into a Special Economic Zone (SEZ), signalling a significant shift from traditional horticultural production toward a more integrated agro-industrial model.



The move is expected to position the company as a hub for value addition, logistics, and enterprise development, extending its footprint beyond farming into a broader ecosystem of business activities. Central to the plan is the development of expanded infrastructure, including facilities to support bouquet operations and cold chain management, alongside space for complementary industries.

The SEZ ambition reflects a growing trend within Kenya's export horticulture sector, where leading players are increasingly exploring ways to capture more value along the supply chain. By clustering pro-

For Mount Elgon Orchards, the planned transition builds on its established position within Kenya's horticulture landscape, while aligning with broader national efforts to promote industrialisation and export-led growth through SEZ frameworks.



duction, processing, packaging, and distribution within a single zone, companies are able to improve efficiency, reduce costs, and enhance traceability—key requirements in international markets.

Special Economic Zones typically offer a range of incentives, including streamlined regulatory processes, tax advantages, and improved access to infrastructure. For export-oriented agribusinesses, these benefits can translate into stronger competitiveness and the ability to attract both local and foreign investment.

Industry stakeholders say such a transition marks an important evolution in how horticulture businesses are structured. Rather than operating as standalone farms, companies are beginning to develop **multi-functional platforms** that integrate agriculture with light manufacturing, services, and trade.

Early reactions within the sector point to the potential for the initiative to unlock new opportunities across the value chain, particularly in areas such as job creation, skills development, and supplier linkages. If successfully implemented, the development could stimulate economic activity beyond the farm, benefiting surrounding communities and associated industries.

For Mount Elgon Orchards, the planned transition builds on its established position within Kenya's horticulture landscape, while aligning with broader national efforts to promote industrialisation and export-led growth through SEZ frameworks.

More broadly, the move signals a shift in industry thinking—one that recognises the future of horticulture not only in primary production, but in **creating integrated systems that drive value, efficiency, and resilience** in an increasingly competitive global market. ■

Associations

COMPILED BY WILSON MAINA

Agriculture Sector Network [ASNET].

Agriculture Sector Network is the premier umbrella body for the agricultural industry in Kenya, it serves as a unified voice for the private sector, coordinating with the government and development partners to transform farming into a competitive and sustainable business.

Katic, Von-Upper Kabete Campus
Tel; 011 2386 224
Email; info@asnet.or.ke
CEO -Agatha Thuo
Chair - Bimal Kantaria

Agrochemicals Association of Kenya [A.A.K-Grow]

Agrochemicals Association of Kenya serves as the primary umbrella organization for manufacturers, importers, and users of pest control products [pesticides] in Kenya. **Mashiara Park [formerly Cooper Centre], Kaptagat Rd off Waiyaki Way**

Tel; 0710 447 777
Email; info@aakgrow.com
CEO - Joel Mutai
Chair - Wachira Muriithi

Avocado Exporters Association of Kenya [AEAK]

Avocado Exporters Association of Kenya is professional membership organization established in 2019 to support and represent Kenyan avocado exporters on the global stage. **North Airport Rd, Saku Business Park, Nairobi, Kenya**

Tel; 0721 909 935
Email; avoskenya@gmail.com
CEO - Phillip Mutooni
Chair - Samson Mureithi

Avocado Society of Kenya [ASOK].

The Avocado Society of Kenya is the primary national association for avocado growers, exporters, and other value-chain players in Kenya. it works to promote efficient production and organized marketing to ensure long-term profitability for the industry. **1st Floor, Unicity Mall, Thika Rd [near Kenyatta University]**

Tel; 0722 406 941
Email; info@kenyaavocadoes.co.ke
CEO; Ernest Muthomi
Chair; Peter Randa

Fresh Produce Consortium [k].

The Fresh Produce Consortium of Kenya is the leading trade association for the horticultural Fresh industry in Kenya. It represents a broad spectrum of members, including growers, exporters, and service providers involved in fruits, vegetables, flowers, herbs, and spices.

Plaza 2000, 3rd Floor, Mombasa Road, Nairobi
Tel; 0722 408 210
Email; ceo@fpkenya
CEO; Okisegere Ojepat

Fresh Produce Exporters Association of Kenya [FPEAK].

The Fresh Produce Exporters Association of Kenya is Kenya's premier trade association representing the horticulture industry. Established in 1975, it serves as the national apex body for growers, exporters, and service providers involved in fresh-cut flowers, fruits and vegetables.

New Rehema House, 4th Floor, Westlands, Nairobi.
Tel; 0713 516 555
Email; info@fpeak.org
CEO; Hoseah Machuki
Chair; Robert Kotut

Kenya Flower Council [KFC]

The Kenya Flower Council is a private, voluntary business membership organization representing roughly 81% of Kenya's flower growers and exporters. Established in 1996, it serves as the lead advocate for the floriculture industry, ensuring the sector remains globally competitive while adhering to high environmental and social standards.

Miotoni 54, Miotoni Road, Karen, Nairobi.
Tel; 0721 975 146
Email; kfc@wananchi.com
CEO; Clement Tulezi
COO; Catherine Mukoko
Chair; Chris Kulei

Kenya National Farmers' Federation [KENAFF].

The Kenya National Farmers' Federation is the umbrella organization representing the interests of all Kenyan farmers. Founded in 1946 as the Kenya National Farmers Union [KNFU], it currently represents approximately 1.6 million farms families across all 47 counties.

Farmers Conference Center, Thogoto, Kikuyu.
Tel; 0706 335 747
Email; dmailutha@kenaff.org
CEO; Dr. Daniel Mwenda
M'ailutha
Chair; Kaburu M'Ribu

National Potato Council of Kenya [NPCK].

The National Potato Council of Kenya [NPCK] is a multi-stakeholder organization that coordinates the potato value chain to improve profitability and livelihoods for farmers. It operates as a public-private partnership [PPP] involving the government, researchers, and private sector players.

KALRO Kabete Campus, off Waiyaki Way, Nairobi.
Tel; 0712 338 633
Email; npck@npck.org
CEO; Wachira Kaguongo
Chair; Prof, John Nderitu

Ethiopian Horticulture Producer Exporters Association [EHPEA].

The Ethiopian Horticulture Exporters Association is the primary business membership organization representing Ethiopia's horticulture and floriculture sector. Founded in 2002, it now has over 120 members, accounting for roughly 85% of the country's horticulture exports.

Tel; 251-116 636 750
Email; info@ehpea.org
Contact person; Tsegaye Abebe

Tanzania Horticultural Association [TAHA].

The Tanzania Horticultural Association [TAHA] is a member-based organization that drives the growth and competitiveness of the horticultural sector in Tanzania. Since its founding in 2004, it has become a central 'voicing platform' for farmers, traders, and exporters of fruits, vegetables, flowers, seeds, and spices.

Tel; 255[27]2544 568
Email; info@taha.or.tz
Contact person; Jacqueline Mkindi

National Horticulture Standing Committee [NHSC]

The National Horticulture standing Committee is a multi-stakeholder platform designed to harmonize the activities of the public and private sectors to boost the horticulture industry.

Tea House off Naivasha Road, AFA Headquarters, Nairobi.
Tel; +254 700 638 672
Email; info@afa.go.ke
Chair; Okisegere Ojepat

Fertilizer Association of Kenya [FA-K]

Fertilizer Association of Kenya is a non-profit business member organization established in 2009. It serves as the primary umbrella body representing the interests of manufacturers, importers, formulators, blenders, and distributors of both inorganic and organic fertilizer across Kenya.

Western Heights, 9th Floor [AFAP offices], Karuna Road, Westlands, Nairobi.
Tel; +254 700211214,
 +254 721449961
Email; info@fa-k.or.ke, fert.kenya.association@gmail.com
CEO; Dr Lilian Wanjiru Mbuthia
Chair; Dr Bimal Kantaria

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Elgon Kenya to launch farm mechanisation unit in partnership with Sonalika Tractors

Kenya's agricultural inputs and solutions sector is set for a major expansion into mechanised farming following the announcement by Elgon Kenya Limited of a new farm mechanisation department in partnership with India's International Tractors Limited (Sonalika Tractors).

The development marks a strategic diversification for Elgon Kenya, a well-established player in the agro-inputs space, as it responds to growing demand for efficient, technology-driven farming solutions across both

large-scale and emerging commercial farms.

According to Dr. Bimal Kantaria, the initiative will introduce Sonalika's latest range of tractors into the Kenyan market, alongside a full after-sales support system that includes spare

parts availability and a network of trained technicians. The tractors are already familiar in the country, but the new rollout will feature upgraded models incorporating recent engineering and performance innovations.

The partnership is expect-



support—an approach increasingly viewed as essential for sustaining equipment performance in African agricultural conditions.

Dr. Bimal Kantaria highlighted the importance of the collaboration, noting that the introduction of advanced machinery and structured support services reflects a broader commitment to modernising agriculture and improving farm-level productivity.

The move comes at a time when Kenya's agricultural sector is under pressure to improve efficiency amid rising production costs, climate variability, and increasing demand for food security solutions. Mechanisation

is widely seen as one of the key levers for transforming small and medium-scale farming operations into commercially viable enterprises.

With the launch of the mechanisation department, Elgon Kenya is positioning itself not only as an inputs supplier, but also as a solutions provider in the broader agricultural value chain—bridging the gap between traditional farming practices and modern, technology-driven production systems.

Further details, including product availability and rollout timelines, are expected to be shared through company channels and direct farmer engagement programs. ■

ed to strengthen mechanisation access for farmers, a critical gap that continues to influence productivity levels in key agricultural value chains. Industry stakeholders note that improved access to machinery could significantly enhance land preparation efficiency, reduce labour constraints, and support timely farm operations, particularly in rain-fed systems.

Elgon Kenya also indicated that the new department will serve as a dedicated support structure for farmers adopting mechanised solutions, aligning equipment supply with technical advisory services and maintenance

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Growing smarter

How technology is transforming Kenya's horticultural sector

Kenya's horticulture sector is one of the country's most important economic pillars. In 2024, the sector supported over four million jobs and contributed Ksh 136.6 billion in export earnings, with flowers, vegetables, and fruits finding markets in Europe, the Middle East, and Asia.



BY NKIROTE MWENDA

Yet the sector operates under growing pressure: climate unpredictability, rising input costs, post-harvest losses, labour constraints, and

increasingly stringent export market standards. Technology is emerging as a central part of the response and Kenya, which now hosts over 186 agritech startups and leads Africa in agricultural technology investment, is at the forefront of that shift.

Solar-powered irrigation: beating the rainfall lottery

For most Kenyan smallholder farmers, agriculture has always been a gamble on the rains. Around 95% of Kenya's smallholder crop production depends on rainfall, and with 80% of the country classified as arid or semi-arid, the margin for error is narrow. Only about 3% of Kenya's arable land is currently under irrigation, yet irrigation can increase smallholder yields two to five times with relatively modest investment.

Nairobi-based SunCulture is one of the most prominent

companies tackling this challenge. The company provides solar-powered irrigation pumps to smallholder farmers under a Pay-As-You-Grow (PAYG) model meaning farmers pay in small monthly instalments rather than large upfront amounts. The system bundles irrigation, lighting, and mobile charging in a single off-grid solar unit. SunCulture now has over 60,000 customers and holds more than 70% of the market share for solar irrigation solutions in sub-Saharan Africa.

A Duke University evaluation covering more than 750 households across six Kenyan counties found that SunCulture farmers saved an average of 17 hours per week compared to manually collecting water using jerry cans, and 92% of adopters reported improved resilience to climate shocks such as droughts. In Siaya County, farmer Maurice

Owino reported that his solar pump had transformed his ability to grow vegetables through the dry season, turning what had been a subsistence plot into a reliable source of income. SunCulture has also developed climate insurance for its customers and sold verified carbon units to offset the cost of its systems a model that is reducing the price barrier further.

Drones: a new eye over the farm

Drone technology is gaining real traction in Kenyan agriculture, moving from demonstration projects to practical commercial use. Drones are being used for crop monitoring, disease detection, soil mapping, and precision spraying and the results are striking. Kenyan farmers using drone services have reported pesticide use reductions of up to 30%, water use reductions of around 40%, and fertiliser savings of between Ksh 1,500 and Ksh 2,500 per acre. A drone can cover ten acres in an hour, a task that would take a manual worker several days.

Fahari Aviation, a subsidiary of Kenya Airways, has become one of the leading players in this space. In April 2025, Fahari

signed a Memorandum of Understanding with aak-GROW/CropLife Kenya to accelerate the adoption of drone-enabled precision agriculture across the country. The partnership combines Fahari's expertise in unmanned aircraft operations with CropLife Kenya's leadership in pesticide safety and crop protection regulation. Kenya's Ministry of Agriculture has also included Fahari in its Strategic Plan 2023–2027 as part of its technology-driven agricultural growth agenda, with the Cabinet Secretary noting that the goal is

Apollo Agriculture, headquartered in Nairobi, is one of the most compelling examples. The company uses satellite imagery, machine learning, and mobile data to provide smallholder farmers with a bundled package of credit, inputs (seeds and fertiliser), agronomic advice tailored to their specific farm conditions, and crop insurance.

to "build a smarter and more resilient farming system that can withstand climate shocks."

In precision mapping applications, drone imagery is used to create detailed maps of soil type, moisture content, and topography, enabling growers to make data-driven decisions on planting, irrigation, and fertilisation. Farmer and drone pilot Mbuli, based in Nairobi, uses drone data to advise other farmers on agronomic decisions. Farmer Iland, who manages a 170-acre holding in Mau-Narok, adopted GPS-guided tractor equipment and drone monitoring after observing that traditional tractor passes were damaging early-stage wheat crops. The shift to precision guidance eliminated that problem and improved his overall yield. He and others like him face one persistent hurdle: obtaining drone operating licences from the Kenya Civil Aviation Authority (KCAA), a regulatory process that many growers find slow and complex.

AI and digital platforms: bringing expertise to the farmer's phone

Perhaps the most immediately accessible technology transformation for Kenyan farmers is the rise of artificial intelligence-powered advisory tools delivered via mobile phone. Given that Kenya has one of Africa's most developed mobile money ecosystems and very high mobile penetration, digital platforms have been able to scale rapidly across agricultural communities.

Apollo Agriculture, headquartered in Nairobi, is one of the most compelling examples. The company uses satellite imagery, machine learning, and mobile data to provide smallholder farmers with a bundled package of credit, inputs (seeds and fertiliser), agronomic advice tailored to their specific farm conditions, and crop insurance. Farmers apply through a mobile platform; if approved, >>

Ksh 136.6 billion

In 2024, the sector supported over four million jobs and contributed Ksh 136.6 billion in export earnings, with flowers, vegetables, and fruits finding markets in Europe, the Middle East, and Asia.



» they receive a voucher to collect inputs from local stockists and repay after harvest. Apollo raised new funding in 2024 to accelerate its expansion across East Africa. The company's model addresses three barriers at once; lack of credit, lack of inputs, and lack of agronomic knowledge by using data that would have been inaccessible to a rural farmer just a decade ago.

Safaricom's DigiFarm platform has also played a significant role, offering Kenyan farmers personalised crop recommendations, access to inputs on credit, and market linkages through their mobile phones. The platform has reached hundreds of thousands of farmers across Kenya's main growing regions. Land O'Lakes' Agritools advisory platform, deployed in Kenya, helped maize farmers achieve an average yield of 2.4 metric tonnes per acre nearly double the national average by delivering timely, customised agronomic advice.

Digital market linkages: cutting out the middlemen

One of the most persistent challenges for Kenyan horticultural producers has been the inefficiency of traditional market chains. Farmers selling through brokers and open-air markets frequently receive a fraction of the final retail price, while produce spoilage during transit and at collection points causes significant post-harvest losses estimated at over 30% for perishable produce.

Twiga Foods, founded in Nairobi in 2014, set out to fix this. The company built a digital supply chain platform that connects smallholder farmers directly to urban retailers and food vendors, removing multiple layers of intermediaries. Twiga aggregates produce from over 1,000 farmers, handles logistics, quality control, and payment, and delivers to 140,000 vendors across 12 Kenyan cities including Kirinyaga, Machakos,



Kenya's cut flower industry, centred around Lake Naivasha and the Rift Valley, operates at very high levels of technical sophistication and is among the global leaders in protected horticulture.

“

Kiambu, Meru, and Embu. The model has reduced post-harvest losses by an estimated 30% and has delivered more reliable and transparent pricing to participating farmers. Twiga has raised over USD 160 million from investors including Goldman Sachs and the International Finance Corporation, reflecting the scale of the opportunity being ad-

ressed.

iProcure offers a complementary digital supply chain solution focused on agricultural inputs. The platform connects smallholder farmers to seeds, fertilisers, and crop protection products through a mobile-enabled supply network, reducing input costs by 20 to 30% compared to traditional retail channels by aggregating demand and improving distribution efficiency. The company has raised over USD 10 million and has expanded into Uganda and Tanzania.

Government and the Kenya Agricultural Observatory Platform

Technology adoption in Kenyan agriculture is not happening only through the private sector. The government has made digital agriculture a cornerstone of its agricultural strategy. In part-



nership with the World Bank, Kenya's Ministry of Agriculture developed the Kenya Agricultural Observatory Platform (KAOP) and a Big Data Platform that provide farmers, extension officers, and policymakers with high-resolution geospatial data on soil, rainfall, crop conditions, and market information.

The Ministry also launched the One Million Farmer Platform, which has connected 1.1 million farmers with 24 agritech startups and 27 county governments. This initiative has been instrumental in bringing digital advisory services to farmers who might otherwise never engage with agritech platforms. Kenya has also developed a Digital Agriculture Roadmap in partnership with the World Bank under the Agriconnect Initiative, which sets out how the country plans to integrate data infrastructure, digital finance, and precision agriculture tools across the agricultural sector over the coming decade.

IoT in the greenhouse: smart sensors for protected horticulture

Kenya's cut flower industry, centred around Lake Naivasha and the Rift Valley, operates at very high levels of technical sophistication and is among the global leaders in protected horticulture. Large-scale flower farms have long used controlled environment technology, but the integration of IoT — networked sensors monitoring temperature, humidity, CO₂, and irrigation in real time — is now extending to mid-scale vegetable and fruit producers.

Davis & Shirtliff, a leading Kenyan water and energy solutions company, distributes the AquaCheck soil monitoring system, which uses networked sensors to deliver real-time soil condition data directly to farm management platforms. These tools allow growers to make irrigation decisions based on actual soil moisture read-

ings rather than schedules or guesswork, reducing water use and improving crop consistency. LoRaWAN sensor networks long-range, low-power wireless systems are also being tested in remote growing areas of Kenya, enabling farmers in areas without reliable cellular coverage to connect soil and weather sensors to cloud platforms via satellite-linked networks. Kenya's agritech story is genuinely impressive, but it would be misleading to present it without acknowledging the barriers that remain. Most of the technology discussed here is still inaccessible to the majority of Kenya's smallholder farmers, who produce 70% of the country's food but operate on very tight margins and limited capital.

Rural connectivity remains a significant constraint. While mobile penetration is high, reliable broadband access is patchy outside urban and peri-urban areas, limiting the performance of cloud-based platforms and IoT systems. The KCAA licensing process for drones is seen by many as a bottleneck to faster adoption of aerial services. Digital literacy gaps mean that even where tools are available and affordable, farmers often need sustained training and support to use them effectively.

Kenya's horticulture export earnings also declined from USD 1.21 billion in 2023 to USD 1.06 billion in 2024, partly due to a stronger shilling making exports more expensive, and partly due to disrupted freight routes through the Red Sea that increased airfreight costs and extended transit times for perishable produce.

These are exactly the kind of supply chain vulnerabilities that digital traceability and logistics technology can help address but full solutions will require coordinated investment across infrastructure, regulation, and technology. ■

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ON THE MOVE

COMPILED BY WANJIKU MWANGI



Dennis Mwirigi **Managing Director.** Flamingo Horticulture appointed as Non-Executive Chairperson of the Kenya Export Promotion Branding and Agency (KEP-ROBA Board, for a period of three years. Mr. Mwirigi is an experienced business leader, finance and governance professional with extensive experience, having served in various senior management and board level positions over the course of his career. His experience spans 27 years in the consulting, manufacturing and agricultural sectors. Mr. Mwirigi has previously held senior roles in top-rated multinational organizations including PricewaterhouseCoopers, Coca Cola Sacco and Finlays.

He holds a master's degree in Business Leadership from the University of South Africa and a Bachelor of Commerce (Finance) from the University of Nairobi. He is a Certified Public Accountant and member of the Institute of Certified Public Accountants of Kenya (ICPAK), and also member of the Institute of Internal Auditors of Kenya (IIA). Currently, Mr. Mwirigi serves as the Director overseeing Governance, Stakeholder Engagement and Regulatory Affairs at Flamingo Horticulture Kenya Ltd. He also serves on the board of the Fresh Produce Exporters Association of Kenya (FPEAK), Equity General Insurance (Subsidiary of Equity Group) and Green Blade Growers Ltd (Subsidiary of Centum Investments) as a Non-Executive Director.



Agatha Thuo, the General Manager of the Agriculture Sector Network (ASNET), is the Chief Executive Officer of the University of Nairobi Upper Kabete Campus-based Kantaria Agriculture Technology & Innovation Centre. KATIC serves as a hub for agricultural innovation, experiential learning, and technology transfer with the ultimate goal of contributing to food and nutrition security, job and wealth creation, poverty alleviation and improved livelihoods, environmental sustainability, and inclusive economic development. The target market is the entire agricultural value chain through cutting edge innovation.

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Journalist Zeynab Wandati. The Climate & Young Audiences Editor, at the Nation Media Group, has joined World Agriculture Forum's Kenya Council. Her appointment marks a significant step in strengthening the intersection of media, innovation, and agriculture as the council sets out to champion transformative solutions for food systems across Kenya and beyond. The newly launched council aims to accelerate the integration of artificial intelligence (AI) and bioengineering in agriculture, with a focus on building resilient, efficient, and sustainable food systems. Bringing together leaders from diverse sectors, the forum seeks to position Kenya at the forefront of agricultural innovation, driving conversations that will shape the future of food security, technology adoption, and inclusive growth. Zeynab's inclusion reflects the critical role of strategic communication and thought leadership in advancing these priorities, ensuring that the narrative around agriculture remains dynamic, impactful, and future-focused.



Mr. Joel Mutai was recently appointed the Chief Executive Officer aak-GROW is also known as Croplife Kenya. He is formerly the Regulatory and Liaison Manager. The organization has been championing Sustainable Agriculture and Food Security aak-GROW is Kenya's leading organization uniting stakeholders in the pest control sector, including producers, manufacturers, importers, formulators, re-packers, distributors, and users of pest control products.

As the national representative of the global pest control industry under Croplife International, aak-GROW-also known as CropLife Kenya-plays a pivotal role in promoting responsible and sustainable agricultural practices. Driven by our commitment to better farming, better food, and better health, we advocate for the responsible management of pest control solutions to enhance agricultural productivity while safeguarding ecosystems.

By ensuring that pest control products are used effectively and sustainably, we contribute to improved food and nutrition security, healthier households, and a resilient national food system. These efforts are fundamental to achieving sustainable socio-economic development and enhancing human well-being for present and future generations.



Andermatt Kenya, through a partnership with Eden Research plc, has introduced Mevalone, a biological fungicide aimed at helping flower growers manage Botrytis and other fungal threats while supporting lower-residue production for export markets. The development comes at a time when Kenyan flower farms are under increasing pressure from international buyers demanding stricter residue compliance, sustainable production practices and reduced reliance on conventional chemistry.

Industry players say the move reflects a broader transition within commercial floriculture, where biological solutions are increasingly being integrated into mainstream crop protection programmes as growers battle fungicide resistance and evolving market requirements. Kenya remains one of the world's leading flower exporters, with Europe serving as its largest market. As sustainability standards tighten globally, biological crop protection technologies are expected to play an increasingly important role in safeguarding both production and market access for the country's flower industry.



Kantaria Centre Marks Four Year of Tree Planting with Strong Survival Rate

The Kantaria Agricultural Technology and Innovation Centre (KATIC), in collaboration with the University of Nairobi agriculture campus at Lower Kabete, has marked its fourth consecutive year of tree planting, achieving a survival rate of over 80 percent.

The initiative, led by Dr. Bimal Kantaria, has seen the planting of fruit trees and other varieties aimed at promoting sustainable agriculture, environmental conservation, and hands-on learning for students and stakeholders in the sector.

The annual exercise has steadily gained momentum, with partnerships playing a key role in its success. Among the collaborators supporting the initiative are the Kenya Forestry Service, Elgon Kenya Limited, and Safaricom PLC.

Dr. Kantaria noted that the high survival rate reflects improved tree management practices, consistent follow-up, and growing awareness on the importance of sustainability within agricultural systems.

The initiative aligns with broader efforts to enhance climate resilience and integrate environmental stewardship into agricultural development, particularly within academic and innovation-driven spaces.

With continued collaboration and commitment from partners, the programme is expected to expand its impact in the coming years, contributing to both ecological restoration and knowledge transfer in Kenya's agriculture sector.



Kenya Fresh Produce Gains Visibility at Macfrut Expo 2026

Kenya's fresh produce sector continued its push into international markets with a strong presence at the Macfrut Expo 2026 held on April 22 in Rimini, Italy.

The Fresh Produce Consortium of Kenya (FPC Kenya), led by CEO Okisegere Ojepat, supported member company Orgafarm at the Kenyan stand, showcasing the country's horticultural offerings to a global audience.

The participation forms part of ongoing efforts to expand market access and grow demand for Kenyan fresh produce in key

international destinations. The Kenyan delegation also included representatives from the Intelligent International Centre for Agriculture and Trade (IICAT Kenya), alongside industry stakeholders such as Ann Njoroge.

Macfrut Expo, a leading international trade fair for the fruit and vegetable sector, provided a strategic platform for Kenyan exporters to engage buyers, build partnerships, and position the country as a reliable supplier of high-quality fresh produce.

Industry players say such global exhibitions remain critical in strengthening Kenya's export footprint and unlocking new opportunities for growth in the horticulture sector.



PICTORIAL: Flamingo Horticulture Expansion

Marginpar hits full FSI sustainability mark as industry signals tighter ESG race in floriculture



In a development that underscores the accelerating shift toward verified sustainability in global floriculture, Marginpar has announced that it has achieved 100 per cent compliance with the Floriculture Sustainability Initiative (FSI) across its entire production and partner farm network.

The milestone places the specialty cut flower producer among a small but growing group of global growers whose supply chains are fully aligned with internationally benchmarked environmental and social standards, strengthening the industry's push toward

traceable and responsibly produced flowers.

The certification under the Floriculture Sustainability Initiative (FSI) means that all farms supplying Marginpar—spanning key production regions including East and Southern Africa—are now independently verified under recognised schemes cov-

ering environmental stewardship, safe chemical use, worker welfare, water management and responsible resource utilisation.

For an industry long scrutinised over pesticide use, carbon footprint, and labour conditions, the achievement is being viewed as both a compliance milestone and a strategic market signal.

From compliance to competitiveness

Marginpar says the 100 per cent compliance status is the outcome of years of structured investment in certification systems, supplier alignment and farm-level capacity building,

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with sustainability embedded into production systems rather than treated as a parallel requirement.

Industry analysts note that FSI compliance is rapidly evolving from a “nice-to-have” certification into a **market entry requirement**, particularly in premium European retail channels where traceability and ESG reporting are becoming mandatory procurement criteria.

A senior industry observer

familiar with the floriculture value chain noted that growers are increasingly being judged not only on quality and yield, but on “how convincingly they can demonstrate sustainability from farm to vase.”

Kenyan and regional ripple effects

The announcement has also drawn attention in East Africa, where Kenya remains one of the world's leading exporters of cut flowers.

Stakeholders in the Kenyan floriculture sector say the move reflects a broader tightening of standards that will likely shape competitiveness in the coming years.

A representative from the Kenya Flower Council (KFC) observed that such milestones reinforce the direction the industry has been taking for over a decade.

“The market is no longer asking whether sustainability matters—it is asking how verifiable it is,” the sentiment >>

100 %

Marginpar says the 100 per cent compliance status is the outcome of years of structured investment in certification systems, supplier alignment and farm-level capacity building, with sustainability embedded into production systems rather than treated as a parallel requirement.

» within industry circles suggests, as exporters increasingly align with multiple certification frameworks including FSI, GlobalG.A.P. and MPS standards.

Growers and exporters note that compliance convergence is helping reduce duplication in audits while also improving access to premium buyers, particularly in Europe, where retailers are under pressure to demonstrate responsible sourcing.

Beyond certification: supply chain pressure rising

However, industry voices also caution that full compliance does not necessarily signal an endpoint. Instead, it reflects a baseline that many believe will continue to tighten.

Export logistics handlers and farm managers argue that sustainability expectations are now extending beyond production into **packaging, cold chain efficiency, carbon reporting, and even air freight emissions**, placing additional pressure across the value chain.

One exporter described the trend as “a moving target where yesterday’s premium standard is today’s minimum requirement.”

A strategic signal to the market

For Marginpar, the milestone strengthens its positioning in a market where buyers are increasingly prioritising verified sustainability credentials alongside quality and consistency.

More broadly, the achievement highlights how floriculture is undergoing a structural shift—from fragmented certification systems to integrated, verifiable sustainability frameworks that cover entire supply networks.

As industry competition intensifies, especially between major African and Latin American producers, full FSI com-



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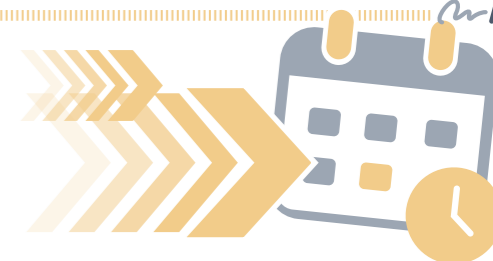
pliance is expected to become a key differentiator in securing long-term retail contracts.

The road ahead

While celebrating the milestone, industry players agree that the broader challenge now lies in maintaining compliance amid rising climate pressures, regulatory changes, and evolving consumer expectations.

For East Africa’s floriculture sector, the message is clear: sustainability is no longer a parallel conversation—it is the central currency of global flower trade competitiveness. ■

SERIES OF EVENTS FOR THE YEAR.



International Flower Trade Exhibition (Iftex) which will be held from 2nd to 4th June 2026 at the Oshwal Centre, Parklands, in Nairobi County.



The 13th World Potato Congress (WPC) will be held in Kenya for the first time from October 26th to 30th 2026 at Sawela Lodges and Convention Centre Naivasha. The Hosts include the National Potato Council of Kenya, Fresh Crop Limited and World Potato Congress Inc.



Naivasha hortifair 2026
September 18-19, Naivasha Sports Club.



Nairobi International Trade Fair (ASK Show) will be held in September 28th 2026 to October 4th 2026 at the Jamhuri Grounds.



Avocado Africa by ASOK will be held from May 26th to May 29th 2026 at the Sarit Centre Expo, Karuna Road Westlands, Nairobi.



Kenya Fresh Produce and Agritourism Conference & Exhibition

THEME: Boldly Enhancing Market Access for Kenya’s Fresh Produce
DATE: 2nd to 4th September 2026
VENUE: Kenya School of Monetary Studies

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