

July - August 2023

THE LEADING FLORICULTURAL JOURNAL IN THE REGION

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## The Leading Floriculture Magazine

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**Floriculture** is published six times a year and circulated to personnel in the Horticulture Industry, foreign missions and Kenyan Embassies abroad, Flower Growers, Exporters and Consumers, extension officers in the Ministry of Agriculture and counties, research offices and suppliers of agricultural inputs in Kenya.



# Editorial

## Correlation Between Productivity and Safety

*It has been proved beyond reasonable doubt the world over, that there is a correlation between productivity, safety and health at any work environment, such that, the lower the safety and health standards the lower the productivity of the organization, particularly in highly mechanized and labour intensive environment; and vice versa.*

*Farm environment is both labour intensive and highly mechanized, with numerous truck and equipment movements, other tasks like spraying, constructions and post-harvest which raises the risk of accidents. As such we should recognize this important fact and ensure that extra care is taken to raise the safety and health bar.*

*Indeed the urgency for change in farms is overwhelming because farms are generally high risk environments considering the nature and types of products handled and services provided, (some of which are classified as risk.*

*It is for this reason that we must put in place an elaborate Occupational Health and Safety Policy together; a confirmation of our commitment to Health, Safety and Environment.*

*We must do this because improvements in Safety for workers through effective loss control practices can be financially rewarding to an organization and subsequently spread the benefits to other stakeholders.*

*Safety Management in farms and elsewhere inevitably means changing human behaviour, to develop deep interest and desire to embrace safety in everything they do. Safety is not just reflector, boots and*



*helmets; Safety is in one's MIND- it is a conviction in doing right things right.*

*It is worth noting that farms put in place various programmes aimed at preventing accidents and inculcating safety behaviours among workers. However, they cannot successfully implement the program on their own without the support and collaboration of all workers. It is important for all process owners to incorporate health and safety elements in all their processes.*

*At the same time the management must assure the Safety Team of their support so that together they can make the farm a safer workplace.*

**Masila Kanyingi**  
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## IFTEX 2023: Celebrating the Bold Beautiful **Kenyan Flower**



Mr. Dick van Raamsdonk



Interplant Roses

**E**leven years since its inception, the International Flower Trade Expo (IFTEX), continues to make tremendous strides in the global flower industry. For years, IFTEX has played a major role in promoting the Kenyan cut flowers whose demand continues to soar in global markets. This has made it possible for the Kenyan flowers to chin-up in the scramble for markets with other flower legends like the Ecuador, Colombia and Ethiopia.

This year marked the 10th edition of this international expo which began on 6th June 2023, running through to the 8th day of June, 2023. The HPP Exhibitions chairman, Mr. Dick van Raamsdonk took the podium during the show's opening ceremony to invite exhibitors, buyers and all other participants to the event, "It is with great pleasure I welcome you to this 10th edition of IFTEX, one of the leading international trade fairs for fresh flower trade in Africa and around the globe, bringing together flower growers and exporters to showcase their innovations in the international flower trade to the international market and the entire supply chain." said Mr. Raamsdonk.

IFTEX brings buyers and growers under one roof, making it worthwhile. This year the show attracted over 160 exhibitors, both Kenyan based and international, ranging from; growers, buyers, breeders, suppliers, regulatory and compliance institutions and logistics.



Iconic figures in the sector were also present including the ambassador of the Kingdom of The Netherlands to Kenya- Mr. Maarten Brouwer, Mayor of Alsemeer, Chairman of the Kenya Flower Council (KFC) board and also CEO of Marginpar Group - Mr. Richard Fernandes, Chief Executive Officer KFC- Mr. Clement Tulezi, Dr. Isaac Macharia-KEPHIS and the Director General Agriculture and Food Authority (AFA)-Mr. Willis Audi who officiated the grand opening of the fair.





Stand during IFTEX 2023

expansion of Kenya's flower business. He stated his conviction that a collaboration between the government and the floriculture sub-sector may encourage greater investment, more acreage, and consequently more jobs.

"We presently directly employ more than 200,000 people. With more government support, we believe we can reach our objective of adding over



**Bold beautiful kenyan flowers**

The Kenya Flower Council (KFC) kicked off the day with the launch campaign dubbed the 'Bold Beautiful Kenyan Flower' which was shared through social media with the hashtag; #BoldBeautifulKenyanFlower.

The year-long campaign focuses on telling the story of the bold and beautiful Kenyan flowers and is aimed at enhancing the demand and position for Kenya's flowers in the global markets.

Mr. Richard Fernandes, Chairman KFC acknowledged the country's distinctive geographical placement on the equator

for the growth of cut flowers and ornamentals.

"With Kenya's fertile soils, cutting-edge technology, inventiveness, and top-notch human capital, we have the chance to triple our exports in the next ten years. So, the question is: How can Kenya realize the full potential of its floriculture sector?"

Mr. Fernandes said that collaboration between the commercial and state sectors is a key factor in the

more jobs in the next 10 years, mostly through increasing private sector investment and the supply of high-quality goods."

The government and business sector working together would ensure that Kenya's floriculture industry maintains a solid position, Mr. Fernandes reaffirmed. And that a "Bold Beautiful Kenyan Flower" will be seen by the entire globe.



Sylvie Mamias (Secretary General Union Fleurs) and participant at the KFC stand during IFTEX 2023

**Kenya's Flower Sector**

This year's IFTEX came at a time when Kenyan growers are grappling with the effects of unstable costs of inputs, freight charges, electricity, and additional taxes among other setbacks in the flower value chain. Nonetheless, it is a precise time for the Kenyan growers to gain some knowledge on cutting

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## News Feature

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costs, expansion of markets as well as technological innovations.

“We are paying an average of 45 taxes and it’s too much,” said Mr. Tulezi. He also suggested that the government grant tax holidays to encourage expansion in the sector.

Kenya’s combination of lowlands and highlands allows for the cultivation of the same variety in several regions, which results in differing features for a number of markets. Kenya is the only country where the same variety cultivated in Naivasha,



*Shalimar Fresh Stand during IFTEX 2023*

Thika, and Nanyuki produces three distinct hues of the same flower that are sold in various marketplaces.

One of the few places in the world where the floriculture sector is still expanding is Kenya. A robust, healthy, stable industry that is therefore completely capable of year-round supply of any buyer of flowers with any amount, quality, and variety, providing the nation

a leadership position in the global market.

“Our flower sector is experiencing higher demand this year as the economies of our key export markets continue to recover,” said Clement Tulezi.

### IFTEX 2023

This year, exhibitors put a special emphasis on attracting new clients in order to boost exports. Each exhibitor was attempting to carve out a niche for their line of work by courting and marketing potential customers. The many types of possible customers and relationships were created by suppliers, producers, exhibitors,

bouquets at the source. This process simplification improves efficiency and allows farmers to deliver ready-made bouquets to their clients. Many rose producers have broadened their range to include summer flowers. This trend began a few years ago but has gained traction due to increased demand from Europe and the Middle East.

IFTEX plays a crucial role in facilitating trade, knowledge-sharing, and collaboration within the international flower industry. By bringing together key stakeholders, it contributes to the growth and development of the global flower trade sector. Over the years, it has created a niche and positioned itself as a brand and a unique platform to market Kenyan Flowers to the world. It still is the most preferred exhibition for every Kenyan grower. This year’s expo outpaced all prior editions.

### Diversification

So what stood out? First, the large range of flowers on display. Compared to other years, there were many more varieties of flowers presented at the stands. Many rose growers have started to diversify their assortment with summer flowers. This trend started a few years ago in order to spread risk better, but now there is also an increasing demand from Europe and the Middle East for these products. And by offering a larger assortment, growers are becoming more of a “one-stop shop” for their direct customers.

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purchasers, and visitors. It was a lively business event where expertise and information were freely shared by everyone there with a purpose.

Key trends were also highlighted during IFTEX 2023. One notable trend was that growers are currently integrating their operations, and a majority are making





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The KFC Team during IFTEX 2023

**Solid competitor to Colombia**

According to van Raamsdonk, Kenya is becoming a solid competitor for Colombian growers exporting to Europe and the Middle East. "Not only in terms of diversity but also in terms of quality, Kenya can surpass Colombia in these areas. The journey of the flower from Kenya to those areas is shorter, and therefore, quality remains higher, and transportation costs will be lower. This will make it a solid competitor to Colombia."

"IFTEX plays a crucial role in facilitating trade, knowledge-sharing, and collaboration within the international flower industry. By bringing together key stakeholders, it contributes to the growth and development of the global flower trade sector."

**Trends**

Another trend that was visible at the show was the consolidation of farms and that more farms are making bouquets at the source. And regarding innovation, several companies see opportunities to make the Kenyan floriculture industry a more data-driven industry.

**Next level**

The 10th edition was celebrated with a good party on the evening of the second exhibition day. "IFTEX is considered an important platform for the Kenyan Floriculture industry, and of course, we as an organization are very proud of that. However, this does not mean that we are now sitting back. There is always room for improvement! We may have reached the 'next level,' but this also means that there are still more levels to reach. For example, we are, of course, always looking for more buyers." Next year's IFTEX will again take place Tuesday through Thursday, June 4-6, 2024.



Osho stand during IFTEX 2023





# Besides Roses



*Kangaroo Paws*



*Alstroemeria*



*Limonium*

Roses, alstroemeria, hypericum, kangaroo paws, and many other summer flowers - Kenya has a great variety of flowers to offer. Although the country has long been a producer of cut flowers, it is generally only the big farms that have made a name for themselves. The Import Promotion Desk (IPD) is working to change that and networking European buyers with new-generation farms. These small and medium-sized enterprises (SMEs) are managed by well-trained Kenyan agricultural professionals and operate on Kenyan capital. Many of the employees have years of experience in flower cultivation and bring expertise often gained from large international farms. Over the course of a buying mission from 6-10 June, the IPD, together with its Kenyan partner, Kenya Flower Council, took European buyers to visit nine new generation farms.

There was a lot of skepticism among the buyers. They were initially doubtful whether the Kenyan SMEs would be able to meet their requirements in terms of quality, working conditions, and sustainability. They were then accordingly surprised by the producers.

"They weren't expecting the professionalism displayed by the SMEs, and their expectations were vastly exceeded," says Dr. Andreas Gemählich, Sourcing + Markets expert for cut flowers at the IPD. "They got to know Kenya as a sourcing country for cut flowers in a new way."

During the visit to IFTEX, Kenya's cut flower trade fair, at the beginning of the trip, the buyers experienced Kenya as a flower country with all its facets. "Anyone who wants to work with Kenya can see the diversity of Kenyan flower production at first glance here," said Carsten Braukmann, Managing Director of "Florin Blumengroßhandel." "In discussions with the producers, their professionalism shone through. These are specialists who live for flowers and deliver high quality."

The range of farms in the IPD programme is equally diverse. The company "Kikwetu Flowers" is situated in the Timau region and is an expert on rose cultivation. On its nine hectares of land at an altitude of 2450 m, the farm grows eight different varieties of roses.

## Great variety of summer flowers

Mount Kenya Sprouts presented its great variety of summer flowers, including Limonium, Bupleurum, Lepidium, Talinum, and Eryngium. The limonium and eryngium varieties drew particular interest. "Mount Kenya Sprouts" offers limonium in nine colors, while eryngium thistles are grown in white and purple. "The tour of the farm was very interesting. It showed the emphasis placed on quality management," says Alexander Manweiler, buyer at "Blumen Willeke." "You can see clearly the result: the summer flowers, their quality and their colors of the blooms, these fulfill the demand criteria of European customers in all respects."

Florenzia Blooms specializing in summer flowers - especially Anigozanthos (kangaroo paws). They are offered in three colors - red, orange, and gold fever. The buyers were very impressed by these shining colors and the friendly and competent team during their visit. "The quality and variety of the summer flowers was very impressive," says Ralf Broehl, Floral

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## ◀ Bupleurum

cut flowers as well as a special relationship to their product.”

In total, the buyers visited nine farms in Kenya. The emphasis was on summer flowers, but the other flower varieties were also convincing. “The trip opened a lot of doors,”

imagine that we will establish long-term business relationships with one or several producers of summer flowers, alstroemeria, and roses.” Denis Probst from “Blumen Willeke” added: “It was a very intense trip with a full schedule, fantastic impressions, and excellent conversations. The range of farms in the IPD program impressed me. I didn’t expect this quality of products or the professionalism of the firms. The firms’ commitment to their communities was especially remarkable. Kenya is certainly an exciting sourcing country for us.”

### Flora Delight expands

Since 2013, Flora Delight is growing hydrangeas in Kenya year-round. They quickly gained traction in the market as demand for these hydrangeas

skyrocketed. Currently supplying them all over the world, and

over the last years, they

have been expanding their assortment with chrysanthemums,

lisianthus,

gerbera and

they are

currently

trialing

celosia.

Offering a

complete

package

was the

reason for the

expansion of

their assortment, and

their more intensive

hydrangea cultivation,

with which they started

several years ago, enabled

them to do so. “We still have 18ha in

production, and we now supply almost all our

products directly”, says Frans Ederveen, who

started trialing the first hydrangeas in 2011

with his business partner Marco Sandijk.

### Hydrangeas year round

“The 52 weeks of sunshine made us decide to start trialing the crop in 2011, after years of

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Purchasing Manager for the online retailer “Valentins.” “This is a range that we need all year round for our bouquets.”

Two Hypericum-farms were also on the agenda of the IPD buyers’ trip. The farm “Benev Flora,” situated near Lake Naivasha, and “Fina Flora,” located in the western highlands of Kenya’s Great Rift Valley, specializing in the cultivation of Hypericum with brightly colorful berries.

Dr. Karlheinz Kroell, Managing Director of “Blütenpracht Frischblumen GmbH”: “The product and the quality – impressive. In conversation, it was abundantly clear that everyone – from the managing director to the workers – live for flower cultivation and are very devoted to their land. They have a lot of experience, knowledge of agricultural economics, and expertise in the cultivation of

summarises Ralf Broehl, Purchasing Manager at “Valentins.” “We will definitely continue the

discussions we have started. I can well





Hydrangea-Bush

adjusting the crop to the Kenyan climate.” And it confirmed their expectations. “As soon as we saw the results, we were certain that it could be cultivated year round as the ‘cold period’ hasn’t had a negative influence on the crop, max 5-6 days” So, in the years that followed, they continued adjusting the hydrangeas to the Kenyan conditions, expanding the cultivation acreage and so on. And at the same time, the market started to know about this product, and demand started to increase. “We did not expect to get so many requests that fast and now, we ship our products, almost all directly, all over the world.”

Expansion assortment

So why the expansion of the assortment? They started with gerberas and chrysanthemums in the autumn



Eryngium-blue-sea-holly-plant

of 2020. And for the chrysanthemum, it has not been an easy task as they also had to set up the cutting production on farm. They had to learn a lot in a short period, but they managed to do it, and in spring 2021, they were producing around 200 to 300.000 stems a week, and now, they are at 400.00 stems a week.

period is more ‘acceptable.’” Ederveen is happy with the production, quality, and demand. “It already exceeds our supply.”

AAA Growers builds new farm and expands Bellissima farm

AAA Growers is currently growing roses on 70 ha at two farms, but by the end of the year,



Lepidium

Also, for their Lisianthus, they want to grow to this amount of stems per week. They started growing this crop 1.5 years ago, in 2021, and are now seeing good results. “In 1994, it was a challenging crop to grow as the cultivation period was too long. Now, due to better genetics, the cultivation

this acreage will be 97 ha as they are in the process of building another farm and expanding their Bellissima farm. At this farm, they will be producing summer flowers such as chrysanthemums, limoniums, gerberas, craspedias, and roses.

Chrysanthemums/Gerberas /limoniums/ Craspedias

At the news farm, they will grow more flowers besides roses. “We have already done some trials at Simba Farm (Forest Gate), and the quality was good, as well as the reactions from the market, especially on limoniums on our bouquet specialties,” explains Moses Ndegwa of AAA Growers. “Basically, we will start with the planting of the chrysanthemums followed by gerberas, limoniums, and craspedias, and our target by the year 2024 is to be at 5 ha of summer flowers.”

# How do You Make a Living When Costs Skyrocket but Wages Stay the Same?

**O**n a flower farm in Kenya, two men are discussing their monthly pay packet. Like workers all over the world, Mutua and Wanjiku are feeling the pinch of a cost of living crisis which has seen inflation eat into their wages.

But it could be a lot worse. While Kenya saw over 9 percent inflation in the past few months, Mutua and Wanjiku received slightly more than the others in the same category, because they are employed on a Fairtrade certified flower farm. The additional money – roughly the equivalent of two months' wages a year – was paid through the Fairtrade Premium, an extra sum earned by producers who sell on Fairtrade terms.

Flower farm workers on Fairtrade farms can opt to take up to half of the Premium as cash to support their incomes – a life-line for employees who work in the sector.

“The Fairtrade Premium reduces the pressure on disposable incomes,” explains Wilbert Flinterman, Senior Advisor Workers' Rights and Trade Union Relations at Fairtrade International. “Fairtrade Standards say workers must receive at least 30 percent of the Premium in cash, which can go up to 50 percent if they want. That makes a real difference, especially in places where workers earn quite a bit below the living wage.”

Fairtrade says a living wage means workers earn enough to afford a decent standard of living for their household – including a nutritious diet, clean water, decent housing, education, healthcare and other essentials – plus a little extra

**Maintaining the real value of wages is integral to the living wage requirement in the Fairtrade Hired Labour Standard, because without that we cannot make progress. Compensating workers for inflation should be at the forefront of everybody's mind when thinking about living wages.”**



*A flower farm employee in a packhouse*

for savings and emergencies so they can plan for the future.

## **Wages fail to keep up with inflation**

The post-pandemic global cost of living crisis took everyone by surprise. Data collected by Fairtrade revealed that the cost of growing and exporting has risen significantly since 2021, with fertilisers up by 70 percent, fuel up by 39 percent, freight by about 50%, and plastic packaging up by more than 20 percent. Add in the need to increase wages – which account for around half of the costs– then both workers and producers face an uncertain future.

Rising inflation makes it hard for workers to live off their wages. At the absolute minimum, wages should be keeping pace with inflation – but in many sectors they are not. Maintaining the real value of wages is integral to the living wage requirement in the Fairtrade Hired Labour Standard, because without that we cannot make progress. Compensating workers for inflation should be at the forefront of everybody's mind when thinking about living wages.”

**“Rising inflation makes it hard for workers to live off their wages. At the absolute minimum, wages should be keeping pace with inflation – but in many sectors they are not.”**

Although costs of living have gone up considerably in Kenya, Fairtrade workers in other sectors and countries face even bigger challenges. In Argentina, where nine Fairtrade wine growers employ around 1200 workers between them, a central bank poll forecasts inflation to hit 110 percent this year and poverty has been pushed up to nearly 40 percent. “It's extremely challenging to protect workers in those contexts,” says Flinterman.

It's a similar story in Sri Lanka, where around 10,000 workers



are employed on Fairtrade certified tea plantations.

Inflation in the country has been running at 73 percent from 2021 until present, severely undermining workers' wages. But, cautions Flinterman, not everything can be blamed on the global economic downturn. "The owners of the businesses that employ the workers can't always use the argument that if they pay workers more to keep up with local costs of living, their business model becomes unviable," he says. "The work of the Anker Research Institute reveals that although the living wage in Sri Lanka went up 60 percent between end of 2021 and 2022, the cost of paying a living wage actually fell when measured in US dollars because of local currency depreciation. Sometimes companies doing business in dollars benefit from shifting currency exchange rates during times of inflation. That way paying their costs of production in local currency, including wages, becomes more affordable."

To monitor and potentially lessen the impact of the cost of living crisis for workers, Fairtrade has recently strengthened standard requirements according to which companies must demonstrate that they have adjusted wages to inflation. Flinterman explains, "If we allow the purchasing power of workers to decrease, the gap between their current wages and living wages will increase. Therefore we are quite demanding and expect certified companies to address this as a first step towards living wages."

**Fairtrade Premium gives disposable incomes a boost**

To positively impact workers' lives beyond providing extra cash, the Fairtrade Premium can also be used to subsidise food and other products in farm shops, build and operate schools and health centres, offer scholarships and free school supplies, provide transport, and interest-free loans – all of which would otherwise come out of workers' wages.

A recent Fairtrade report shows that in Ghana, the in-kind benefits generated through Fairtrade Premium equate to an average of USD\$75 per worker per month.

Sixty-six percent of workers said they used the resulting savings simply to survive, spending it on basics such as food and household bills. As one worker interviewed for the report put it, "All prices have doubled...there are certain items we simply cannot afford any more."

The same study suggests that in Colombia – another major source of Fairtrade bananas – the Premium uplift is worth more than USD\$88 per worker per month. When you consider the living wage benchmark for Colombia is US\$433 per month, that's a significant contribution. Employee Osnaider Mercado Sandoval Suarez, who works on a

Fairtrade certified plantation, told researchers: "As a banana worker, we do not have the economic capacity to pay for certain expenses, and so the Premium makes it easier for us."

Despite the significant role of the Fairtrade Premium in supplementing wages, Flinterman insists that the need for a living wage for workers is more pressing than ever. "Workers on farms, factories and plantations are among the most vulnerable people in global trade," he says. "They often lack formal contracts, trade union representation and basic health and safety protection – and that's before you get to the issue of low wages. Of course the Fairtrade Premium is a major plus for disposable incomes – especially in the banana sector – but it must never be used as an excuse not to pay adequate wages."



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#### Living wage benchmarks can support collective bargaining

Trade unions in a collective bargaining relationship with Fairtrade farms can benefit from living wage benchmarks that are adjusted every year to take account of inflation. The benchmarks for agricultural sectors, pioneered by the Anker Research Institute in collaboration with Fairtrade and the Global Living Wage Coalition, help determine the gap between actual wages and what's needed for a living wage in any country or region. Employers and unions can use them as a reference in negotiations, rather than comparing union proposals to minimum wages.

To start a negotiation process, unions must organise the workers in a company. When the required minimum level of support is reached it triggers a legal obligation for the company to bargain. Fairtrade certification can make this process easier, as certified companies must grant unions' access to the worksite, sign a Freedom of Association Protocol and post a Right to Unionise Guarantee in the workplace. "If necessary we will follow up with the companies to make sure they are reminded of their commitments and aware of their obligations with respect to trade union rights", says Flinterman. "Sending that signal can help lower barriers for unions to reach more workers."

The post-pandemic economic slump has only served to underline the urgent need to introduce living wages across a variety of sectors, and there is some good news: In Ecuador and Colombia wages of banana workers hover around living wage levels. In the Urabá region of Colombia specifically, which hosts the largest cluster of Fairtrade plantations in the country, wages that were achieved through collective bargaining are even better.



Also in Ghana, Fairtrade banana plantations have a constructive relationship with two national trade unions and use living wage benchmarks in their bargaining process. In Ethiopia, the absolute floor wage Fairtrade requires for flower workers was adjusted at the end of 2022 to reflect an increase in the international poverty line. However, with inflation in Ethiopia running at around 35 percent, that adjustment will quickly start to lose traction.

#### Living wages don't come for free

Nearly ten years ago, we made the case for 'wage-rich prices' which reflect the true cost of production without harming the very workers whose rights Fairtrade supports – for example by making their employment less secure. Fairtrade remains the only major scheme for ethical trade that requires buyers to pay a minimum price on certified products, based on an assessment of the costs of production and a dialogue with producers and traders.

Although there has been progress, it's clear that a lot still needs to be done until

all workers in Fairtrade plantations and factories can genuinely claim to earn a living wage. "The global cost of living crisis has had a negative impact on both producers and consumers, making the road to a living wage that much longer," says Flinterman. "We've made progress in some countries and some sectors, but high inflation in others means that real values of wages are actually moving backwards."

"Many industries – including those producing flowers, tea and textiles – only remain viable through purchasing practices that are built on keeping costs and wages low. Some retailers are turning the heat up on producers to pay living wages, but they also complain that their customers can't afford to pay any more. It is right that we try to protect workers in global supply chains from exploitative wages and we won't let up – but eventually, someone has to foot the bill and show they are serious about business and human rights principles."

*\* names have been changed*



# PEST ALERT

## FALSE CODLING MOTH (FCM)

One of the pest challenges currently facing flower producers in Kenya is the false codling moth (FCM), *Thaumatotibia leucotreta*.

Growers have suffered financial losses due to quarantine restrictions and detection of a single larva can result in rejection of an entire consignment.

For proper control of FCM, it is desirable to use the yellow delta traps baited with a pheromone lure to monitor the extent and densities of this invasive moth pest. Visual inspection of plants involves looking out for signs of poor growth or rot; holes in flowers; adults hidden in foliage; and crawling larvae. Once the flower is damaged, it becomes vulnerable to fungal organisms that causes rots. Infestations can be identified by the brown spots and dark brown frass.

Current control of FCM in ornamentals consists of chemical application with Karate Zeon and Match, mating disruption using pheromones and biological control methods.

## EVERY FLOWER COUNTS



syngenta®

# How Your Employees Can Lead Your Greenhouse Safety Efforts

**M**anaging a greenhouse comes with several responsibilities. Among those commitments: ensuring your team is safe.

Greenhouse work can involve exposure to chemicals, working at heights, operating machinery, and dealing with heavy objects. These factors can increase the risk of accidents, injuries, and even death if proper safety precautions aren't followed.

Let's look at how your own employees can take ownership of safety and manage risks throughout your business.



attract candidates who value a safe, organized work environment.

**Cost savings:** Did you know the average medically consulted injury cost has been high? Fewer accidents and injuries can result in reduced costs related to your workers' compensation claims, medical expenses, and legal fees.

**Enhances reputation and brand image:** Maintaining a strong safety record signals to your customers, employees, and community that your business prioritizes employee well-being.

## Appoint Safety Leaders

Safety can play a crucial role in the success of any horticultural business. However, building a culture of safety from scratch can be an overwhelming task if the responsibility is placed on a single manager. A strong program requires a collective effort.

Appointing safety leaders at all levels of your greenhouse is one step toward creating peer-to-peer accountability within your business. When choosing your safety leaders, look for traits that include:

- Experienced leading employees



## Benefits of Employee Safety

Empowering employee leaders to monitor and improve safety in the workplace can foster a safer, more productive environment. Here are just a few benefits you might see:

**Enhanced employee well-being:** A safer workplace promotes the well-

being of employees, which can lead to increased job satisfaction, morale, and productivity.

**Supports retention and recruitment:** A strong emphasis on safety can help retain top talent and

”  
Maintaining a strong safety record signals to your customers, employees, and community that your business prioritizes employee well-being.

”







**Lead by example**

In order for your employee leaders to transform your safety culture, they have to practice what they preach and proactively address safety issues as they arise. This includes:

- **Consistently demonstrating safe behaviours and following safety protocols.** By actively following safety procedures, wearing appropriate personal protective equipment (PPE), and practicing safe work habits, leaders set a positive example for others to follow.

- An appreciation and respect for workplace safety
- Strong communication skills
- The respect of the employees they'll be leading

**Boost Your Internal Team's Efforts**

Communicate safety expectations and provide your internal leaders with the tools and confidence necessary to cultivate a culture of safety. Here are some quick tips:

**Establish safety goals**

A safety plan with measurable goals will provide your safety leaders with a clear roadmap.

1. Identify key safety objectives that align with overall goals
2. Conduct a comprehensive risk assessment to identify hazards
3. Develop actionable strategies to mitigate risks and improve safety
4. Establish measurable safety performance indicators
5. Conduct regular safety audits and reviews
6. Monitor progress and communicate updates



• **Proactively identifying safety hazards.**

Regularly inspecting work areas, equipment, and processes to help identify potential hazards before they arise.

• **Promptly resolving safety issues.** When safety issues arise, taking immediate action to address and solve them.

• **Encourage reporting and feedback.**

Promoting a culture where employees feel comfortable reporting safety concerns and

providing feedback.

**Share employee meeting responsibilities**

To help reinforce engagement, share the responsibility of hosting regular safety meetings with your employees by:

1. **Fostering collaboration:** Involve them in hosting safety meetings to create a comfortable environment where everyone has a voice.
2. **Reinforcing policies:** By jointly leading safety meetings, you're consistently communicating and reinforcing safety policies and procedures throughout the organization.
3. **Encouraging an open dialogue:** Create opportunities for feedback, allowing employees to ask questions,

share their observations, and contribute insights to improve safety practices.

4. **Strengthening accountability:** Sharing hosting responsibilities reinforces peer-to-peer accountability, emphasizing that safety is a collective responsibility.

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### FROM PAGE 17

#### Celebrate safety successes

Celebrating individual safety success is a powerful way to reinforce a culture of safety within your organization—who doesn't like to be celebrated? Here are some ideas:

- Acknowledging milestones and achievements in safety performance
- Highlighting individual contributions to safety
- Recognizing teams or departments for their safety efforts
- Sharing success stories and achievements throughout the organization
- Implementing rewards and incentives for exemplary safety performance
- Organizing celebratory events dedicated to safety
- Recognizing those who contribute to continuous safety improvement

#### Incorporate safety training into onboarding

Starting new hires with a strong emphasis on safety demonstrates its importance from day one. Here's how you can enhance your onboarding process:

- Develop a comprehensive safety training program for all new hires
- Customize training content to align with job roles and responsibilities
- Clearly communicate safety guidelines and expectations
- Use interactive training methods for better engagement and retention
- Assign safety mentors to provide guidance on safety

practices

- Regularly evaluate comprehension and progress during training
- Implement consistent refresher training

#### Reinforce policies with ongoing communication

Creating a safety program is not a set-it-and-forget-it deal. Instead, it requires continuous effort and ongoing communication to reinforce policies. Regular reminders through emails, newsletters, or meetings can help to keep safety at the forefront of your operations.

Remember, communication should be two-way. Encourage employees to provide feedback, ask questions, and share their experiences.

Creating a dedicated safety program takes time, planning, and employee buy-in. But you don't have to do it alone. You can reach out to your insurer or a local expert to help you review — and enhance—your safety program.





# ‘Positive’ Impacts of Fairtrade on Flower Workers



Fairtrade flowers workers in East Africa experience higher wages, better working conditions, and greater engagement in workers' rights issues and gender equity than their non-Fairtrade certified counterparts, a new report released revealed.

The study, titled Impact of Fairtrade on flower workers and market access of flower farms in East Africa and conducted by Social Policy and Development Consulting Limited, examines 11 producer organisations across Kenya, Uganda and Ethiopia, including nine Fairtrade certified, and two non-Fairtrade, and builds off the inputs of more than 650 workers via survey and focus groups, as well as interviews with farm managers, Fairtrade staff, and other flower industry stakeholders.

Through their analysis, the researchers found that Fairtrade has a 'positive' economic impact on flower workers with 69 percent of the workers on East African Fairtrade certified farms reporting higher wages compared to their counterparts on non-Fairtrade certified farms. Indeed, the study indicates that the percentage of Fairtrade farm workers falling into the relatively higher wage brackets was more than twice as high at Fairtrade farms compared to non-Fairtrade farms.

In addition to boosted wages, the study's results note that nearly

nine out of ten workers at Fairtrade certified flower farms reported that they or their household members have individually benefited from Fairtrade Premium funds with the most popular uses of the Premium going to education bursaries; home improvement items; and community projects such as water, health and school infrastructure. The Fairtrade Premium, a unique tool available to Fairtrade-certified farmers, is an additional sum of money that farmers and workers invest in projects they choose. The report adds that the Fairtrade Premium appears to both "enable empowerment and reduce financial pressure" among the flower workers surveyed.

"The results of this study ring as a true confirmation that we are on the right track with the work we are doing," said Melanie Dürr, Global Product Manager for flowers and plants at Fairtrade International.

"From higher wages and greater economic security to supporting workers' rights and gender equity, Fairtrade offers real, tangible solutions for workers, farmers, and licensees. This is at the core of our Fairtrade vision and mission and we are thrilled to see the proof in the proverbial pudding."

Flowers are a key Fairtrade product and are popular among consumers, particularly around fixed annual events such as Valentine's Day.

In 2021 alone, 5.1 billion stems of Fairtrade flowers were produced by nearly 70,000 workers on certified East African farms representing more than 97 percent of Fairtrade's total flower production. Over the same period, Fairtrade flower sales generated more than €8.5 million in Premium worldwide.

The report's findings also show that Fairtrade workers are more confident in pursuing their rights at work, developing outside businesses, and engaging in their communities. This awareness also extends to gender equity as Fairtrade Africa trainings have demonstrably broadened workers' grasp of gender issues. More than half of the 71,000 workers on Fairtrade certified flower farms around the world are women and women hold more than 50 percent of leadership and management positions at said farms.

Meanwhile, farm managers interviewed by the researchers also indicated that the benefits of Fairtrade outweigh the cost of certification, including market access, stable prices and long-term commitments from buyers. Citing Fairtrade's significant positive impact but noting the risk of falling sales in the current economic climate, flower traders recommended more efforts to create platforms with buyers and farms for an improved exchange, as well as greater emphasis on flowers within emerging sustainability and human rights legislation.

At the same time, the report also issues a number of recommendations and learnings, calling on Fairtrade to expand its engagement with workers and farms on collective bargaining and union representation, working towards a living wage, and strengthening environmental requirements.

"The report provides us with great encouragement and also meaningful insights by which Fairtrade can continue to grow, improve, and deliver for flower workers around the world," Ms. Dürr continued. "And while we are happy with the report's findings, we also know that much still needs to be improved and that we have to continue our work to further push wages up towards living wages. We look forward to building on these findings as we continue on our mission to building a fairer and more sustainable world for all."

# Need a Strategy to Recruit and Train Greenhouse Scouts?

Successful pest and disease management in commercial greenhouses relies heavily on skilled and knowledgeable scouts. These individuals play a crucial role in monitoring, identifying, and addressing potential issues in crop health. Recruiting and training effective greenhouse scouts is a vital step towards maintaining a thriving and productive greenhouse ecosystem.

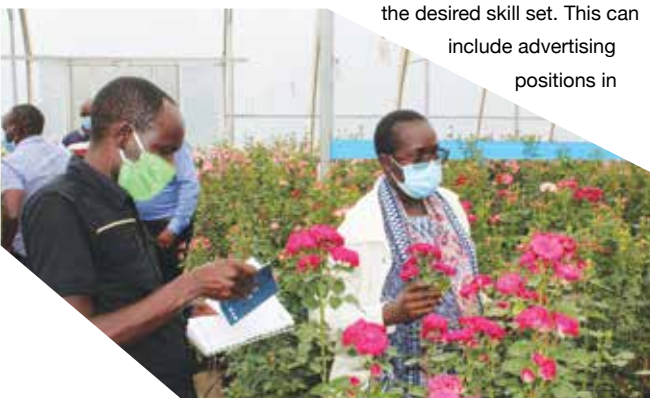
In a recent blog post, the team at ecoation highlights key strategies and considerations for recruiting and training commercial greenhouse scouts, empowering them to become a valuable asset in ensuring the long-term success of greenhouse operations.

## Identifying Key Skills and Qualities

Recruiting the right individuals for the role of greenhouse scouts begins with identifying the key skills and qualities required for success. Scouts should possess a keen eye for detail, excellent observation skills, and a strong understanding of plant biology. Additionally, good communication and reporting abilities are essential to effectively communicate their findings and recommendations to the rest of the team. Greenhouse scouts should also have a passion for continuous learning and staying updated on the latest advancements in pest and disease management techniques.

## Establishing Recruitment Channels

To attract potential greenhouse scouts, it is important to establish recruitment channels that target individuals with the desired skill set. This can include advertising positions in



relevant job platforms. Engaging with local universities and colleges that offer horticulture or agricultural programs



can be an effective way to connect with enthusiastic and knowledgeable candidates. Additionally, networking within the industry and attending career fairs can help to identify individuals with a genuine interest in greenhouse scouting.

## Comprehensive Training Programs

Training plays a crucial role in equipping greenhouse scouts with the necessary knowledge and skills to excel in their role. A comprehensive training program should cover the following aspects:

### • Pest and Disease Identification:

Scouts should be trained to identify common pests, diseases, and physiological disorders that affect greenhouse crops. They should learn how to differentiate between beneficial and harmful organisms, as well as understand the signs and symptoms of infestations or infections.

• **Monitoring Techniques:** Training should include instruction on effective monitoring techniques, such as systematic scouting methods, use of appropriate tools, and data collection procedures. Scouts should learn how to accurately record and report their findings to aid in decision-making processes.

### • Integrated Pest Management (IPM):

Greenhouse scouts should receive thorough training on IPM principles and practices. This includes understanding the life cycles and behaviours of pests, as well as the implementation of preventive measures and the use of biological controls and environmentally friendly strategies.

### • Communication and Collaboration:

Effective communication skills are crucial for scouts to interact with other team members, growers, and management. Training should focus on clear and concise reporting, as well as collaboration with other departments, such as production and crop management.

## Ongoing Professional Development

To maintain a high level of expertise, ongoing professional development is essential for greenhouse scouts. Encourage them to attend relevant workshops, conferences, and webinars to stay updated on emerging pest management techniques and industry best practices. Additionally, provide opportunities for scouts to share their knowledge and experiences with colleagues, fostering a culture of continuous learning within the team.



# Managing Caterpillar infestations



systems. Depending on the species, they chew irregular holes in plant leaves and flowers or entirely consume seedlings, young shoots and buds. Caterpillars are voracious feeders and can severely retard the growth of young plants or reduce the aesthetic value of produce in case of cut flowers and fruits.

delta traps per hectare where the adults are expected to be. Check the traps on a weekly basis and change pheromone dispensers every four to six weeks. Initially, if you are not sure which species of moth you are dealing with, set up a couple of traps with different pheromones to help with identification.

**Mass trapping:** pheromones used to attract and capture many male adults. This slows down the growth of the population. Deploy 20 to 40 traps per hectare inside the greenhouse, depending on pest pressure. Change pheromone dispensers every four to six weeks.

**Chemical corrections:** Since caterpillars are typically the damaging stage, mass trapping may generally not be sufficient for total pest control depending on the time of intervention and pest pressure. Chemical interventions may thus come in handy to keep the pest below economic threshold.

It is critical to proceed with caution when applying chemical pesticides especially if you are already working with a biological pest control program.

## Management

**Cultural control:** Ensure good sanitation of the greenhouse and its environs. Remove any weeds and plant debris that may serve as host to the caterpillars. Where applicable, it is advisable that you install insect netting in all ventilation openings to prevent adults from entering the greenhouse. In addition, repair any holes or damage in the plastic walls and/or roof material and use clean planting material and plants.

## Scouting and monitoring

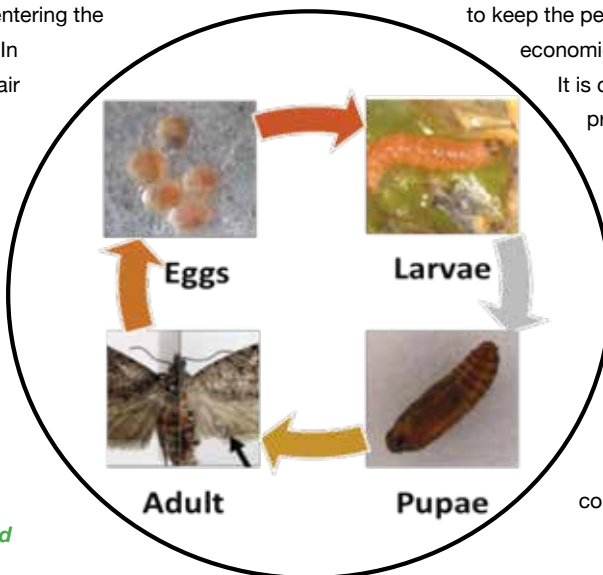
Deploy pheromones mounted on traps to identify the species and ensure timely intervention. It is recommended, that you set up the traps at a rate of 10

In recent times, growers have experienced sustained infestation of their crop by caterpillars of various species. This has led to significant losses to their enterprises with rejects associated with this pest now emerging among the top when compared with other insect pests. This has become a growing concern among growers especially in the flower industry, hence a need to highlight some of its management practices.

## Damage

Caterpillars are the larval stage of a butterfly or moth. Characteristically, they have biting mouthparts, and a large number of them are important crop pests. Butterflies are usually more noticeable since most of them fly by day. Moths on the other hand are generally night flying and so less obvious, but their larvae cause more economic damage to plants than butterfly larvae.

Caterpillars are a major constraint to food, fibre and horticultural crop production



Life cycle of a caterpillar



# Better quality flowers, increased profit

## Chrysal Services

is a unique post-harvest service concept that keeps flowers fresh and controls Botrytis during air freight, sea freight and long storage.

- Keeps your roses Botrytis free
- Enhances colours
- Ensures uniform opening
- Prolongs vase life
- Enables for Long Storage

## Chrysal Africa testing facility

As leader of post-harvest solutions for cut flowers, Chrysal Africa is proud to introduce our new state-of-the-art testing facility in Nairobi, Kenya. This cutting-edge facility not only harbours a large vase life room meeting international standards but is also equipped with four controlled-atmosphere chambers that can test different settings of oxygen and CO2 during long-storage and sea freight of flowers.



## Data platform: Blue Box

With the launch of Blue Box, Chrysal Services releases its data platform; integrating not only all processes but foremost allowing its customers to track real time data and developments regarding sea freight of cut flowers. Quality data and reporting has always been at the forefront, but with this platform you will be able to track the data yourself in real time and set personalised notifications for any parameter you deem necessary. Furthermore, it allows you to track your orders and view the history of sea freight business, together with efficiency data and analyses.

Please contact our Technical Consultants  
to find out how we can best support you: [info@chrysal.co.ke](mailto:info@chrysal.co.ke)





# Better quality flowers, increased profit

## Chrysal Services

Offering unrivalled solutions for long storage  
and sea freighted cut flowers



**CHRYSAL**

# Food for Thought: The Scout decision

In 1907, Baden-Powell, an English soldier, devised the Scout motto: Be Prepared. That's always a good plan in all areas of life, including the horticultural sector, where pests and diseases can have devastating effects on crops and on the grower's bottom line.

Both greenhouse and outdoor crops are susceptible to many pests and diseases which cause irreversible damage and can lead to serious economic losses. Because of the low tolerance for damage, ornamental crops require regular scouting and an effective pest management strategy to ensure that a higher marketable quality is maintained.



A good crop scout can be a valuable asset to a grower. If no scouting function is performed, there is little or no chance of early problem detection and identification. Growers need to keep a close eye on each field throughout the growing season to avoid crop losses.

The cornerstone of an Integrated Pest Management (IPM) program is scouting or monitoring plants for insects, diseases, weeds, nutrient deficiencies, physiological



problems and overall crop health. Crop scouting keeps a grower on top of field conditions, helps in catching and diagnosing problems early and allows for timely corrective action to protect crop yield and quality. When done regularly, crop scouting is a valuable tool for identifying

field-specific pest pressure and crop injury in order to prevent potential outbreaks from occurring, which reduces crop damage and plant losses.

Scouts collect up-to-date information regarding the presence of pests (primarily insects and diseases) and

evaluate the effectiveness of previous pest management strategies. Scouts need to have a good understanding of plant biology, pest biology, pest life cycles, host plants, beneficial insects, injury symptoms, environmental risk factors, and control strategies. With proper training and experience, scouts can identify potential problems and provide the information necessary for making good pest management decisions.

The method used by a professional scout is a straightforward one, in which the scout monitors the crop by examining a representative sample of the plants. First the area to be scouted is mapped and, if large divided into sections. When the scout monitors the crop, he/she looks at plants that are at high risk of being infested/infected: along walkways, by doors, along outside rows, and in areas where infestations/infections have been previously found. The rest of the section is covered in a zig zag random pattern. The part of the plant a scout examines is determined by the behavioural characteristics of the pests most common to the plant. As the scout finds problems, he/she uses a record sheet to note his/her findings and marks any infestations/infections on the map.





Crop scouting keeps a grower on top of field conditions, helps in catching and diagnosing problems early and allows for timely corrective action to protect crop yield and quality. When done regularly, crop scouting is a valuable tool for identifying field-specific pest pressure and crop injury in order to prevent potential outbreaks from occurring, which reduces crop damage and plant losses.

Pest management professionals will use information provided by the crop scout to select and implement a pest management program. A well-designed scouting program includes three main activities:

1. Sampling to provide an accurate estimate of pest densities and crop health.
2. Identification of pests or diagnosis of the cause of crop injury based on observable symptoms.
3. Comparison of observed pest pressure or crop injury to recommended economic injury levels or economic thresholds.

Thus, the success of the recommended



pest management procedures depends on the accurate and timely completion of all three crop-scouting activities.

Scouting should be done weekly during the growing season but this can vary according to the crop grown, the stage of growth, the perceived pest threat, and weather conditions. Scouting for a particular pest or problem requires very specific methods. These methods can vary depending upon the pest or problem, but may include time of day, stage of crop, location to look on the plant or in the soil, as well as action population thresholds.

Fields are scouted to determine whether one or more pest management tactics are justified.

*The benefits of scouting include;*

1. To improve pesticide application decisions based on scouting reports; right timing and targeting.
2. Increase control of pests and to manage resistance of pests to chemicals.
3. To avoid economic losses to the

4. Improved selection and evaluation of application techniques.
5. Permit the use of biological control agents.

The concept of an economic injury level was developed to provide objective guidelines for making informed decisions about pesticide use. The economic injury level is the pest density or level of crop injury that will result in yield loss equal to the cost of managing the pest. It may be considered the break-even point, or the lowest pest density at which treatment may be economically justified. The economic threshold is the pest density or level of crop injury at which controls should be applied to prevent an increasing pest population from reaching the economic injury level.

Flower growers can optimize pesticide usage, maximize economic returns, and produce high quality crops by using IPM programs which use established scouting procedures. The horticultural sector will continue to expand into more specialized and diverse areas and as a result, growers need to be 'be prepared.' Crop scouting will play an even more vital role in the business of agriculture.



Scouting

# Prerequisites to be Satisfied

A successful IPM program depends upon a successful monitoring program. There are several prerequisites which must be satisfied to accomplish this. An implementor of an IPM program must:

1. Commit enough time and sufficient money to expand pest control practices from total dependence on pesticides to a truly integrated system.
2. Establish an IPM team and decide who is going to make pest management decisions.
3. Provide team members with the proper equipment including: 10X hand lens or headset with a magnifier, coloured tape or flags, books with pictures for proper

identification of pests, maps of greenhouses, and access to a diagnostic laboratory (such as the Plant Disease and Insect Diagnostic Laboratory at OSU).

4. Divide the greenhouses into logical units and then make maps of these units so all members of the IPM team can communicate pest and crop information uniformly.

5. Provide adequate training to team members to allow them to identify pests in all life cycles.

### Scouting Methods

The primary goals of monitoring are to locate and identify insect, mite and disease problems, and to observe changes in the severity of infestation. These

are accomplished by random plant inspections throughout the production area and by the use of sticky traps and indicator plants.

Random plant inspections should be performed weekly or, preferably, twice weekly during the entire production season. Scouting procedures should be as routine as possible.

Monitors should establish a pattern that will cover all areas of the greenhouse and follow the same pattern every time.

Scouting must be intensive; the more plants monitored the better. Scouting

should start from a major doorway. This is often the location where disease and pest problems begin. Special attention should be paid to plants around any openings in the greenhouse, especially those plants on the outside rows of benches.

Monitors should walk every aisle and move from bench to bench in a snake-like or zig-zag pattern. At least 10 minutes should be spent inspecting 20 or more plants from every 1,000 square feet of production area. The number and size of plants will affect the scouting pattern, as well as the location and size of the benches in the greenhouse. At least three plants on every bench should be inspected, from the edge, the middle and as far into the bench as can be reached.

Individual plants should be chosen at random and inspection should include checking for insects, mites, or disease symptoms. Inspection is begun at the bottom of the plant and proceeds upwards, from older leaves to younger leaves to new growth. Special attention should be paid to buds and blooms. Pots should be tipped sideways for inspection of the underside of the leaves where many pests reside. Root examinations should be performed on crops that are highly susceptible to root disease by inverting and removing the pot.



Hanging baskets must also be inspected. Since most pests that attack greenhouse crops do not distribute themselves evenly throughout the crop, one should never assume to know exactly where the pests are, or a serious misjudgement could occur and an entire infestation overlooked.

In addition to random plant monitoring, a daily inspection of indicator plants and sticky traps is ideal. The first diseased or pest-infested plant found on a bench becomes an indicator plant. This plant is marked with a stake or in some manner that allows the employee to check the same plant daily.

Checking the same plant daily allows

become infested or diseased and helps simplify crop monitoring

### Record Keeping

Without proper records, scouting will be ineffective. IPM programs depend upon keeping detailed records. Incoming plant material inspections, random and indicator plant inspections, sticky trap information, and crop treatments must be recorded.

All production inputs must be noted concisely and accurately. Managers trying to diagnose a problem without records are at a disadvantage and will overlook potential causes of the problem. Maps of the greenhouses showing where benches, sticky traps, and indicator plants are

circumstances found in the greenhouse.

Detailed records of any pesticide application should be kept to compare with previous records to see if fewer applications have been made or if a less toxic chemical has been substituted.

### *These records should include the following information:*

1. Date of spray application.
2. Name, classification, amount of active ingredient, and registration number
3. Amount of material and water mixed for the application.
4. How much of the pesticide was actually applied.
5. Where the pesticide was applied.
6. Square feet or number of pots treated.
7. Type of application method (wet spray, fog, etc.).
8. Applicator's name.
9. Labour hours.
- 10.

IPM has the potential to save growers money on chemical costs; however, scouting will cause an increase in labour cost.

Implementing an IPM program takes time and patience. It also requires changes in production strategy. More labour hours must be invested into the production of a crop, and detailed records must be kept. However, there are rewards. Growers over time can determine their own economic threshold for any given insect, related pest, or disease. Fewer pesticide applications mean less cost to the manager, less hazards to the worker, and less potential damage to the environment.

It will also decrease the likelihood that pests will develop a resistance to a traditional pesticide, which will give the manager one more weapon in his/her arsenal against pests.



for an ongoing close examination of pest populations or symptoms as they spread to surrounding plants. The scout can also follow the development of a pest problem, noting the rate at which the life cycle is progressing. Tracking the development rate provides the manager with necessary information regarding the best time for pest control measures, if necessary. Indicator plants can also be used to check if treatments were effective. A highly susceptible host plant is an excellent indicator plant. Grown among the commercial crop, it is the first plant to

located should be maintained.

Disease, mite, and insect infestations can be pencilled in on these maps, and movement of the infestation can be monitored. As the season progresses, pest trends develop, and a direction for pest management decisions will be seen.

Weekly summaries should be compiled when a scout is finished with the week's monitoring. The information is itemized for each greenhouse, according to the pests detected, the counts, and any unusual

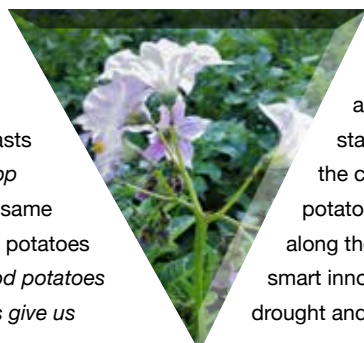


# National Potato Conference and Trade Fair 2023

'Potato business' in Kenya is gaining traction and the National Potato Council (NCPK) together with the Ministry of Agriculture have been burning the midnight oil to make this venture a success by placing the farmer at the centre of the conversation. It is evident that potatoes are not just the future food for the world but also a reliable crop, and just as important as maize in the dietary statistics coming second after maize.

Potato comes in handy when the world thinks of diversifying into other sources of starch. It's no wonder the potato enthusiasts say *'potato was the first crop to be grown in space.'* The same potato *aficionados* say that potatoes don't go bad because *'Good potatoes give us chips, bad potatoes give us*

*vodka.'* This is actually without doubt because the potato is a decent crop that over the years has helped eradicate poverty, improve food security as well as providing a healthy and nutritious food to many people



globally. The potato is one of the major food crops consumed globally and greatly contributes to food and nutrition security.

Recently, farmers, stakeholders and a majority of industry players around the country convened at the KALRO Headquarters during a two-day sixth Annual Potato Conference dubbed 'National Potato Conference and Trade Fair 2023'. Several speakers took the podium to address topical issues in the potato sub-sector among them post-harvest handling, value addition, access to inputs, finance, status of potato production in the country, access to certified potato seeds, varieties, traceability along the potato value chain, climate smart innovations in addressing drought and erratic rains for enhanced



Mr. Wachira Kaguongo; CEO NPKC

potato production among others.

The sponsors and partners for the two-day conference were; the NCPK, Ministry of Agriculture and Livestock Development (MoALD), International Potato Centre SSA(CIP), Agriculture and Food Authority (AFA), Kenya Agriculture and Livestock Research Organization (KALRO), Kevian Kenya Ltd, KenInvest, Corteva Agriscience, Syngenta Foundation for Sustainable Agriculture, Pest Control Products Board (PCPB), Bayer East Africa, Agriculture Sector Network (ASNET), Food and Agriculture Authority (FAO), Solynta for HTPS, Syngenta Seed 2B, Twiga Chemicals, Kenya National Farmers' Federation (KENAFF) and Sereni Fries.

The forum which is synonymous with knowledge dissemination and networking, had in attendance experts in the industry from different parts of the country representing all the potato producing and consuming counties. Different companies and organizations showcased their products as most farmers thronged the exhibition stands to grab some information on various input in the potato value chain, technologies and innovations.

It was an epoch making event that saw multitudes of farmers and stakeholders drawn from different





(The first time to be held in sub-Saharan Africa).

The NPCK also showcased a digital platform called 'Viazi Soko' that is meant to help farmers in addressing various challenges in the potato value chain. It avails ways for accessing quality farm inputs and services such as certified seeds, suitable fertilizers, approved agrochemicals, spray services, soil testing and mechanization services. It links farmers to the market outlets. So far the platform boasts of over 100 thousand registered farmers.

countries grace the occasion to witness more than just a trade fair but the making of history- The institution of the International Day of Potato (IDP) that was declared by Food and Agriculture Organization (FAO) and the United Nations- which was henceforth set to be marked on the 30th day of May each year.

Under the theme 'Transforming the potato value chain into a sustainable nutrition sensitive food system for socio-economic growth,' the National Potato Conference

provides a platform for all the stakeholders in the industry to pull together ways of ensuring growth and better performance in the sub-sector.

The NPCK also announced the formation of Kenya National Potato Sacco as well as recruitment of members and partners to the Sacco. This was meant to help them access finances for the production of potatoes. "It is also my pleasure to inform you about the Kenya Potato Sacco which has been formed by farmers to help them access finances for potato production,"

said Mr. Wachira Kaguongo, NPCK's CEO in his speech. All this came at a time when Kenya had just been named the host for the World Potato Congress (WPC) in 2026

FAO on the other hand has been reiterating the need in raising awareness of the contribution of the potato as an invaluable food resource and as a generator of income for rural families and producers, with a view to achieving the United Nations Sustainable Development Goals for 2030 Agenda. In the same way, over the years, the Potato Conferences have been impactful for they have provided resolutions, created business linkages between farmers, processors and other businesses in the industry.



# Energy Consumption on Flower Production

**F**lower production is an important industry that contributes to the global economy, providing beauty, employment, and economic opportunities. However, the energy consumption associated with flower production has significant implications for the environment, particularly in terms of carbon emissions and the overall carbon footprint. By exploring the energy-intensive processes involved, the sources of energy used, and the potential strategies for mitigating carbon emissions, we can gain insights into the environmental impacts and pathways towards more sustainable flower production.

## Energy-Intensive Processes in Flower Production

Flower production involves several energy-intensive processes that contribute to the industry's carbon footprint. These include greenhouse heating and cooling, lighting, irrigation systems, post-harvest handling, transportation, and packaging. Each process requires significant energy inputs, mainly derived from fossil fuels. Understanding the energy consumption patterns at each stage of flower production is crucial for assessing its environmental impact.

## Carbon Footprint of Energy Sources

The carbon footprint of flower production is directly influenced by the sources of energy used. Conventional energy sources such as coal, oil, and natural gas have high carbon emissions, contributing to climate change. On the other hand, renewable energy sources like solar, wind, hydro, and biomass offer cleaner alternatives. Comparing the carbon footprints of different energy sources highlights the need for transitioning to more sustainable options.

Implementing energy efficiency and conservation measures in flower production can significantly reduce energy consumption and carbon emissions. This involves optimizing greenhouse design for insulation, using energy-efficient lighting systems such as LEDs, adopting precision irrigation techniques to minimize water and energy waste, and implementing energy management systems. Energy audits and monitoring play a vital role in identifying areas for improvement and implementing energy-saving practices.

## Renewable Energy Integration

Integrating renewable energy sources into flower production is crucial for reducing the carbon footprint. Solar panels, wind turbines, and biomass energy systems can generate clean energy to power greenhouses, lighting, and other energy-intensive processes. Governments, industry stakeholders, and financial institutions can support the adoption of renewable energy through incentives, grants, and policy frameworks. Developing robust infrastructure and fostering research and development in renewable energy technologies are essential for successful integration.



## Lifecycle Assessment and Supply Chain

### Considerations

Considering the entire lifecycle of flower production, from inputs to cultivation, post-harvest processes, and transportation, provides a holistic

understanding of the carbon footprint. Evaluating the environmental impact of inputs, optimizing resource use during cultivation, implementing efficient post-harvest practices, and employing sustainable transportation methods contribute to reducing carbon emissions. Additionally, eco-friendly packaging materials and waste management strategies are crucial for minimizing environmental impact.

## Industry Collaborations and Initiatives

Collaborations among industry stakeholders, certification programs, and industry-wide initiatives play a pivotal role in addressing energy consumption and reducing the carbon footprint of flower production. Knowledge sharing, best practice dissemination, and the adoption of sustainability standards promote accountability and encourage continuous improvement. Industry associations, research institutions, and government bodies can support these initiatives through funding, technical assistance, and policy support.

Therefore, the implications of energy consumption on flower production are significant, with direct consequences for the industry's carbon footprint. By addressing energy-intensive processes, transitioning to renewable energy sources, implementing energy efficiency measures, considering the entire supply chain, and engaging in collaborative initiatives, the flower production industry can make substantial progress in reducing its environmental impact. Governments, industry stakeholders, and consumers all have a role to play in promoting and supporting sustainable practices in flower production. Through collective efforts, the industry can contribute to global efforts to mitigate climate change, promote environmental sustainability, and ensure a greener future for flower production.



# Cold Chain Consistency Equals Floral Success



In recent years, we have witnessed the floral supply and distribution chain growing ever longer. Flowers come from greater distances than ever before to reach the retailer and the consumer. Despite these distances, the overwhelming majority of flowers tend to arrive healthy and vibrant, with plenty of vase life remaining.

**What is the formula for success?** Well, there are many steps along the way, and proper care and handling at each step is critical. And one of the most important protocols is adherence to the cold chain. From the field to the processing facility, from the farm to the airport, from the airport to customs, from the bouquet operation to retail, floral professionals work to maintain flowers at a consistent cool temperature, ideally between 34 and 38 degrees Fahrenheit (1-3 Celsius). Let's follow the flowers along their refrigerated journey, shall we?

## From the Fields to the Processing Center

At the farm, workers harvest flowers

from the fields and bring them into the postharvest building. They wait in a cooling room while the heat from the fields dissipates. Then, the postharvest process begins. Workers begin by hydrating and treating the flowers in a refrigerated room.

After hydration and treatment, processing begins in another room. Flowers first rest in a cool hydration solution. Then, they are graded, bunched and sleeved. Next, flowers go into another hydration solution to be cooled once again. Then, ideally still in the cooler, flowers are placed into shipping boxes to await transportation to the airport.

## From the Processing Center to the Airport

Refrigerated trucks transport the flowers to the airport, where the flowers wait in a large cooler until they are ready to be loaded onto a cargo plane. After a temperature-controlled flight, the shipper unloads flowers into a refrigerated hall at their destination, where customs officers receive and clear the product. After that, the flowers await transportation.

## From the Airport to the Bouquet Operation

Refrigerated trucks transport the flowers from the airport to the bouquet operation or distribution facility. Upon arrival, flowers once again wait in a pre-cooling room to remove any heat collected during transportation. Bouquet makers process flowers, make bouquets and pack the flowers in another cool room, then place them in shipping boxes, which are also pre-cooled to dissipate heat collected during processing. If the bouquets are made at the farm or the flowers are sold as bunches, they are transferred to the importer's cooler to await shipment to the wholesaler or mass market buyer.

## From the Bouquet Operation to the Distribution Center

Refrigerated trucks then transport the shipping boxes to customer distribution centers. The customer distribution center stores the flowers in a non-produce cooler to await distribution to the retail store. It's important to keep flowers and produce separate due to the harmful ethylene gas emitted by ripening produce.

## From the Distribution Center to the Retail Store

Refrigerated trucks take the flowers from the distribution center to the retail location. Once again, the retailer stores flowers separately from other produce until it is time to merchandise the flowers.

## Fighting Temperature Fluctuation

It bears repeating: at each step along this epic journey, every effort is made to maintain that steady 34-38°F (1-3 C) temperature. Why the dogged determination to maintain a consistent low temperature? Because temperature fluctuation is the enemy! When temperatures rise and fall repeatedly flowers become stressed and may begin to produce ethylene. Also, temperature fluctuations lead to condensation forming inside the flower packaging. Condensation leads to high humidity in the packaging, which can cause botrytis spores to begin growing in 4 to 8 hours. And botrytis is contagious, passing from one compromised flower to the next. As they say, it's a vicious circle!

## Obey the Cold Chain!

It's something to think about... when those flowers are in your care, remember the hard work and constant focus of floral professionals from the farm forward who work to deliver the freshest, healthiest, most beautiful flowers possible for the consumer. Then, do your part!

SOURCE: <https://floralife.com/>

# Make Testing, Inspection and Certification Affordable

**The agency said this will enhance competitiveness in the export market.**

The government has been urged to make testing, inspection and certification of produce destined for the export markets affordable to farmers and exporters.

According to Ali Qazilbash from the United Nations Industrial Development Agency (UNIDO), this should be done by the implementing authorities namely KEBs and KEPHIS. Qazilbash who spoke during the closing ceremony of the EU-EAC Market Access Upgrade-MARKUP programme in Nairobi said the move will allow the products to enter high end markets.

He however, noted that enhancing safety standards of the



products should start from good agricultural practice. He insisted that good practice starts from the farmer, by ensuring they plant the correct seedlings for integrated pest management. This, he said, involves ensuring proper use of pesticide or biological control of pesticides. It also extends to proper use of fertilizer and watering. Qazilbash further noted

that there are many types of good agricultural practices including the Global-Good Agricultural Practice (GAP), and each country can develop its own GAP that would be more affordable for farmers and help bring them on the right track to improve their farming techniques. Not only in terms of yields but also quality that would prove to be compliant for market requirement,”

Qazilbash said. “This will enable them to export to or sell to the domestic market, regional and international or high end markets such as the EU, Far East Asia and North America.”

He added that

consumers also need to be aware of the required standards so that they can trace the origin of the products they purchase.

As a consumer, when you buy a product from the market, you should know where it was farmed and when it was harvested, he said. “If the competent authority goes and tests a product and



finds that there is high residues level, through a traceability system, they should be able to know where the product has come from, what day it was harvested and by who.

“This will ensure collective action is made. The ultimate aim is to correct the mistake and reduce the risk. So risk management, risk assessment and risk communication is also part of the traceability system,” Qazilbash noted. Stefano Sedola, the chief technical advisor of MARKUP programme said the project was started in 2019 and it has helped the country to increase competitiveness and market access in the horticulture sector.

The MARKUP programme was implemented by the United Nations Industrial Development Agency (UNIDO) in East Africa, with funding from the European Commission in Kenya. Sedola said the project sought to strengthen the institutional and regulatory framework for safety, as well as to capacity build farmers and exporters.

He said through the project, there has been an increase in revenue of over 5,000 producers and exporters. The increase has been

up to 60 per cent for the targeted farmers and an increase in market access for the exporters by up to 45 per cent.

“We have been able to improve productivity and increase revenues in the horticulture sector which has been dominated for years by low productivity levels and post-harvest losses. We have also increased competitiveness and we would like to scale up beyond the counties we worked with and at least reach hundred thousands of farmers. But to do this we need support from donors,” Sedola said.

Bernard Kiio, a mango farmer from Makueni county said he has been trained on good agricultural practices and pest management. “Mangoes are our cash crop and we have been trained on pruning and on how to effectively use pesticides. With the training, I have been able to increase my yields from three tons to 11 tons in the last season,” Kiio said.

Adolfo Cires, programme manager, Finance and Private Sector Development EU delegation to Kenya said the program has supported Kenyan farmers to access the EU market. “The markets are open and there are opportunities but there are specific certification and standards that must be met to be able to export to the European Union (EU),” he said.



# New IPM Essen Campaign for the Anniversary Edition

**T**he next world's leading horticultural fair is a very special one: For the 40th time, the International Plant Fair IPM will be launching at Messe Essen from 23 to 26 January 2024 - and with a new look. With the slogan "Our heart beats green" and a visual showing a heart overgrown with plants, the great bond between the industry and IPM ESSEN as well as the importance of the trade fair as a pacemaker for innovations are expressed. Numerous activities are planned around the trade fair anniversary.

In 1983, the first IPM ESSEN opened with around 100 mainly German and Dutch plant exhibitors in just one hall of the Essen fairgrounds. The new trade fair for the green sector quickly recorded continuous growth. Today, the young shoot has become a strong, branched, deeply rooted plant with international appeal and even offshoots in other parts of the world. "IPM ESSEN has written history and continues to write it. Every year, it sends valuable signals to the industry and sets the course for the new horticultural year. We are looking forward to many more success stories and an anniversary edition that will be long remembered by all participants. We would like to say thank you for 40 international plant fairs in Essen", Oliver P. Kuhr, CEO of Messe Essen, is looking forward to the next event.



## Outlook IPM ESSEN 2024

2024, more than 1,500 exhibitors from around 50 nations are expected throughout the fairgrounds to present their products and services to an international trade audience: from plants and technology to floristry and décor. Numerous activities are planned for the 40th edition, such as a podcast, a photo campaign, a selfie point in the new campaign look

and a big birthday party with tributes to the exhibitors of the first hour. Congratulations can be shared on social media under the hashtag *#congratsIPMESSEN*.

At its last meeting, the Advisory Board gave the go-ahead for IPM ESSEN 2024 and defined the content framework. After the positive response this year, the top theme "Climate Trees and Perennials" is to be further expanded. A meeting point and guided tours are again planned. In the Innovation Centre Horticultural

Technology, the focus will be on water management. "One of the major tasks of the future for horticulture is information to use assortments that can withstand the changing climate. At the same time, it is about the careful use of resources. IPM ESSEN offers numerous opportunities to get fit in this necessary complex of topics", says Eva Kähler-Theuerkauf, Chairwoman of the IPM Advisory Board and President of the Landesverband Gartenbau NRW e.V. (North Rhine-Westphalia Horticultural Association. Germany).

## New advisory board members

The IPM Advisory Board is an committee with members from trade associations, industry and politics. New members are Klaus Gaumann, Director Marketing & Product Management at Selecta Klemm GmbH & Co. KG, as well as Hajo Hinrichs, who, as the new President of the Bund deutscher Baumschulen e.V., takes over from Helmut Selders.



# Change of Guard: FPEAK's New Board of Directors

FPEAK announced new set of board of directors for the association. This process kicked off on October 28, 2022, during the annual general meeting with the election of two directors, while the remaining three were appointed during a board meeting held on February 17, 2023. The directors have since undergone governance training, and an handover meeting with the retired directors. "We are therefore delighted to introduce to you the new FPEAK board of directors who will steer the organization to greater heights."

**Robert Kotut** is the current chairman of the FPEAK Board. Robert is an Executive Director at Karen Roses, a family-owned business with over 18 years in agribusiness. Prior to agribusiness, Robert was in IT consulting and banking.

**Leah Meja Sonkoi** is the current vice chair of the FPEAK Board. Leah is the Managing Director for Spisa Kenya Limited, a leading exporter of fresh herbs in Kenya. Leah has over 15 years of experience in the fresh produce industry and is passionate about food safety, lean manufacturing, and value addition.

**Dennis Mwirigi** is the current Finance Director at FPEAK. Dennis is a Director at Flamingo Horticulture Kenya Ltd (FHK) and Managing Director of FHKs Central Services business unit.

**Edwin Gakonyo** is the General Manager- Africa at Royal Flora Holland, a cooperative that has brought together growers and buyers for more than a century, where fresh flowers are auctioned to various destinations around the world.

**Dickson Kimathi** is currently the head of Agriculture at Kenya Horticulture



Robert Kotut  
*Chairman*



Leah Meja Sonkoi  
*Vice Chair*



Dennis Mwirigi  
*Finance Director*



Edwin Gakonyo  
*Director*



Dickson Kimathi  
*Director*



Peter Njonjo  
*Director*



Simon Odhiambo  
*Director*



Asif Muhammad  
*Director*

Strategic Planning, Strategic Control, and Management Control.

**Simon Odhiambo** is the Executive Head – Corporate Affairs at Kakuzi Plc. Simon is a social scientist with over 18 years' experience in developing and implementing socio-environmental management systems, Food Safety Management Systems, Occupational Safety and Health Systems, and has done extensive work with communities in implementing development and relief interventions when he was working at various NGOs.

**Asif Muhammad** is the Managing Director of Keitt Exporters Limited. Keitt Exporters Limited is one of the leading exporters of Fresh fruits and Vegetables from Kenya. Mr. Asif is an active player & one of the key contributors to the Horticulture industry in Kenya. He is extensively involved in promoting Kenyan fresh produce in different parts of the world for more than two decades now and holds in-depth knowledge and experience on international market & ever-changing fresh produce sector expectations.

FPEAK firmly believes that this new Board of Directors will play a vital role in shaping the strategic direction of the organization, ensuring effective governance, and fostering innovation and sustainable growth. The board is committed and ready to work with FPEAK members and the horticulture sector in general in order to continue making Kenyan horticulture the global choice.

FPEAK extends its sincere appreciation to their retired directors for their dedication, vision, and unwavering support. Their contributions have been invaluable, and we will forever be grateful for their leadership during their six-year tenure.

exporters, with over 18 years of experience in the agriculture field.

**Peter Njonjo** is in charge of Public Relations for the Vegpro Group. His work involves Legislation, Regulations, and Stakeholders Representation for their business. Peter has a wealth of experience in





# Huwa-San ADVANCED WATER HYGIENE

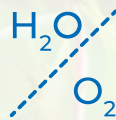
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**Pictorial**



**Official Launch**



**KFC CEO, Ambassador and Chrysal Staff**



**Official Speech**

**(Right) Chrysal Staff takes attendants through the facility**



## **Chrysal Launches an Ultra -Modern Testing Facility**

Chrysal Africa, the leading supplier of post-harvest treatments and flower care products, celebrated the inauguration of its cutting-edge testing facility. The event was graced by the attendance of key figures including the Ambassador of The Kingdom of The Netherlands to Kenya, Mr. Maarten Brouwers, CEO of the Kenya Flower Council, Clement Tulezi, representatives from CMA CGM and Maersk, influential growers, major flower importers, and other relevant industry partners.

The facility's launch signifies the strategic partnership between Chrysal, the Kenya Flower Council, and the Dutch Embassy, with a mission to evolve sea freight of flowers from Kenya in the coming years. The facility is equipped with state-of-the-art controlled atmosphere chambers and an innovative data platform, enabling extensive trials and data mining to determine optimal treatment parameters and controlled atmosphere settings for any flower on any given day.

The event was met with great enthusiasm, and the innovative concepts will be explored further during the upcoming International Flower Trade Expo (IFTEX).



**Discussions during the Launch**



**Part of the Chrysal Team**



# Follow the Golden Rules in the Avocado Industry

The Kenyan export season 2023 opened on the 24th of March this year. The main reason for this was related to poor dry matter due to weather conditions experienced in Kenya.

As most growers and exporters know one can achieve high prices at the beginning and the end of season when the market is not under pressure from excess fruit.

“The Chinese market is a relatively immature market when it comes to avocado. Consumers don’t yet have the same high expectations compared to Europe and the USA. In fact a large percentage of the population consume avocado when it is not even ripe,” comments Paul Huish, Senior Commercial Manager at AAA Growers.



“Due to lack of knowledge some exporters take chances and export avocado with dry matter

lower than 23 % just chasing price. To export avocado from Kenya to China the product must undergo a fumigation process, which will stress the product. Therefore, to have good arrivals you need to follow the golden rules in the avocado industry dry matter of min 23 %, harvest product from uniform orchards, strict rules when it comes to harvesting and post-harvest regimes and respect the cold chain. These rules are core values of AAA Growers.

Unfortunately, not all exporters out of Kenya respected these criteria and when you pack poor quality avocado and then stress it with fumigation you will have quality issues on arrival. As Kenyan exporters are trying to build a brand for Kenyan Avocado, we really must respect these rules.”

This season with the massive volumes of Peruvian avocado the Chinese market also came under pressure. Weeks 22 and 23 saw the highest arrivals with 140 & 148 containers arriving. These volumes pushed prices down to a level of 4.68 USD per box.

“At these levels growers and exporters can’t make money. It looks like the bulk of Peruvian avocado has been picked and exported and markets will return to acceptable price levels. AAA Growers will start the picks of its second crop this season in two weeks’ time and will be harvesting till end October.”



## Israel Avocado Firm Sets Base in Kenya

Granot International Company one of the biggest packers of avocado in the Israel market has established its base in Kenya at Naivasha in Nakuru County. Agriculture CS Mithika Linturi who recently toured the firm’s pack house in Hadera Israel says that the company has began growing large scale avocado for the export market and also creating employment opportunities of approximately 2,000 employees in Kenya.

“The government, through my ministry, will collaborate with Granot for the benefit of our farmers who will directly gain from improved seedlings, technology, pack houses, and international market linkages. The company will engage out-growers who will benefit directly by selling their products to the company, this will definitely increase profits for our farmers and cut off middlemen who suppress farmers. It’s important to note that Kenya has among the best weather and soil for avocado farming in the world,” says the CS



The CS was accompanied in his tour by Uasin Gishu Governor Jonathan Bii Chelilim, Eng. John Kipchumba Tanui PS, ICT and Digital Economy, Dr. Paul Ronoh, PS State Department for Water and Sanitation and Israel Ambassador in Kenya Michael Lotem, among others.



**UK Firm get CAK nod to acquire full stake in Bigot Flower Kenya**

The Authority approved the proposed acquisition of the entire issued share capital. The Competition Authority of Kenya has given a go-ahead for the acquisition of Naivasha-based flower firm Bigot Flower Kenya by the United Kingdom investment holdings company Flamingo Horticulture Investment Limited. This will now allow Flamingo to acquire the entire share capital of Bigot for an undisclosed amount. The deal comes at a time when the flower industry is struggling, the margins shrinking by the day and growers struggling to supply the market and maintain Kenya's position as a key producer of cut flowers and ornamentals.

While Flamingo is involved in the growing, processing, marketing, and distribution of roses and other cut flowers, Bigot grows, packages, markets, and distributes rose flowers. "This approval has been granted based on the finding that the transaction is unlikely to negatively impact competition in the market for growing, processing, and exporting flowers, nor elicit negative public interest concerns, the two key considerations during merger analysis," CAK said in a statement. According to players in the sector despite the relative growth, the flower industry in Kenya requires a predictable and stable business environment.

During the merger, CAK considered the extent to which a proposed merger would impact employment opportunities and the competitiveness of SMEs. Other factors were the impact on particular industries or sectors and the ability of national industries to compete in international markets. "As per the parties' submissions, this transaction will not elicit negative public interest concerns. Specifically, the target's 1,000 employees will retain their employment under the same terms. Premised on the above, the Authority approved the proposed acquisition

**This new development will provide greater opportunities for our customers in terms of global reach and allow our team to advance their careers beyond the realm that was previously possible.**

**Kuehne+Nagel Acquires Morgan Cargo**

Kuehne+Nagel signed an agreement to acquire Morgan Cargo, a leading South African, UK, and Kenyan freight forwarder specializing in the transport and handling of perishable goods. During 2022 the company handled more than 40,000 tonnes of air freight and more than 20,000 TEU of sea freight globally, managed by approximately 450 logistics experts. The acquisition of Morgan Cargo ideally complements Kuehne+Nagel's perishables logistics service offering while improving connectivity for customers to and from South Africa, the UK, and Kenya, which includes state-of-the-art cold chain facilities.

Yngve Ruud, Member of the Management Board of Kuehne+Nagel, responsible for Air Logistics, commented: "With Morgan Cargo, we acquire a reliable logistics service provider for the benefit of our customers. Expansion in high-growth markets such as Africa clearly ties into our Roadmap 2026 and reinforces our commitment to the Middle East and Africa Region. We have been active in Africa for many years, but this acquisition is an ideal addition to our regional presence." Schalk Bruwer, CEO of Morgan Cargo, added: "We wanted to expand our successful family-owned business and took the opportunity to become part of one of the world leaders in logistics. This new development will provide greater opportunities for our customers in terms of global reach and allow our team to advance their careers beyond the realm that was previously possible. Morgan Cargo is extremely excited to become part of Kuehne+Nagel."

Closing of the transaction is expected during the third quarter of 2023 and is subject to customary closing conditions, including clearance by the competent merger control authorities.



# Must Do: Naivasha Horticultural Fair 2023



An exhibition provides a resourceful space to network, listen to your customers and learn what the competitors are doing differently than you. An exhibition provides a platform for different exhibitors to promote their products and services physically. It is an opportunity to meet your customers, collect leads, make relationships and sales. IFTEX is gone but the floriculture industry is yet again warming up for the Naivasha Horticultural Fair.

The fair is celebrating 20 years of excellence since its inception and is planned to kick off on the 15th and 16th of September 2023. So, just to make every of your coins count, here's a few tips on how to get the most out of your exhibition investment ;

## Find Out Who's exhibiting

You don't want to book a stand out of an emotional decision but a well calculated and detailed analysis, an exhibition demands resources, therefore you need to prioritize value for your money before anything else. Find out who is exhibiting, you might want to know if your competitors already booked a stand or if a major exhibitor pulled out of the event. This information speaks volumes about the value of the exhibition.

## Reach out to other exhibitors

Exhibitions involves networking and not necessarily with the visitors alone but also with other participants, sometimes some of the resourceful and strategic advice, leads and sales come from unexpected sources. Exhibitors, trade associations and media might not be on your side as they are after the same goal as you but finding out how you might complement each other or work to your advantage.

## Creativity at the stand matters

Every exhibitor will definitely be giving one hundred to decorate their stands and design settings and arrangement of the products. You don't want to come short on this one, you will have to up your game and go the extra mile

to impress, you have this one opportunity to capture the customers' attention, draw them to your stand and finish the job of closing them. Create a theme, promotion or a competition to help staff strike conversations and entice visitors to your stand.

## Motivate and train your staff

This might seem a cliché and a waste of time but trust me it is necessary; this is your investment we are talking about, booking for the stand involved some money, logistical activities to the show to and fro will definitely cost you money. It should be your top priority to get returns and the best way to do so is with an aggressive and motivated team. Train your staff on what to do and inform them of what will be expected of them more especially the sales team. Do not leave any stone unturned, you will be going hunting and getting your team equipped with the basics and the right tools will enable you to come home with a meal. Training and motivating your staff will complement your creativity in the design and decoration you had above for your stand. Therefore, it is important to have a motivated team who are ready to kill.

## Negotiate hard with Exhibition Organizers

Well, you should definitely be mindful of additional marketing activities offered in the event which are designed to extend your business visibility before, during and after the exhibition. Some of these add-on benefits are free, for instance, a free listing in the show guide and on the website; others are available at additional costs. Negotiate for such additional benefits to bolster your brand awareness campaign. As well negotiating a discount for your stand space, find out if the salesperson you are dealing with can give you additional free benefits- such as access to pre-registered visitors data, a prominent spot in show publicity or even enhanced listings in the show guide.

## Don't Make Assumptions

Exhibition success relies heavily on strategic

planning, execution and paying close attention to details at every stage. If you just make an assumption that certain essential items or services will be supplied without checking then you might experience some hiccups during the day and create some last-minute stress for yourself which might negatively affect your plans for the show.

## Don't waste time on non-decision makers

Exhibition organizers tend to focus more on the quality of the audience who can deliver more than huge visitor figures. As an exhibitor, you should find an event that can offer an audience of buyers, not time wasters. Visitor data from previous events will give you a reliable guide on the nature of the visitors you can expect to see. However, it is upon your sales team to be creative on the amount of time they spend with visitors who are not decision-makers.

## Freebies and Giveaways will take you along way...Brand emphasis of course!

This will clearly cost the company an arm and a leg but it will emphasize on brand awareness after the show. It sure will! Freebies shouldn't be in the form of expensive products but simple merchandise such as; pens, caps, carrier bags, notebooks, and stick notes just to name a few. However normal it may seem, freebies contribute in ways we cannot imagine; do not forget to factor this in your exhibition plans. Exhibitions cost a fortune and it is the task of the team involve to make a good use of it to promote the company's products and services, generate leads and create sales in the end. In conclusion, do not forget to reward your team for a job well done; this will maintain the strength and motivation of your team moving forward.

Have a fabulous Expo!

# Mind Your Water When Managing Greenhouse Crops

Improving resource efficiency in controlled-environment agriculture (CEA) systems is essential to ensure sustainable food and crop production and preserve the planet's precious resources. In its upcoming "CEA Energy & Water Benchmarking Report" found that greenhouse operators growing leafy greens, for example, are using drastically varying amounts of water to produce their crops. The most efficient greenhouse operators can grow crops using less than 3 gallons per pound produced (gal/lb.), while others are using more than 20 gal/lb.

With water scarcity becoming an increasingly critical issue, greenhouse operators must take steps to reduce both their water use and water waste regardless of the crops they grow. As resource costs continue to climb, there also is an economic incentive for CEA producers to adopt the most efficient systems and practices to maintain profitability. Here are some best water-efficiency tips and practices to help your business mind its water usage.

## Knowing Is the First Step

The first step greenhouse owners need to take when trying to optimize their water efficiency is to track their current water use. While it may seem obvious, many operations only track the entire water volume that their facility uses through their utility's water meter or sewer discharge meter. This setup leaves growers unaware of where the water is being used most, and where it is potentially being wasted.

To become better water stewards, operators must know how much of their water is going towards irrigation, climate control, or processing (the latter includes water used for spraying pesticides, sanitation, rinsing vegetables, or floating plants down a flume for further processing).

A well-maintained operation may be missing out on resource-saving efficiencies by only monitoring the quantity of water it uses, as water quality determines water quantity. Put

differently, water quality monitoring determines what use is suitable and how long that water can be used before needing to be replaced.

It is crucial to collect data to identify when and where water is wasted for greenhouses using evaporative pad-and-fan cooling. Evaporative cooling pads can be poorly adjusted and spring leaks that easily go unnoticed by greenhouse workers, which can in turn lead to significant amounts of water being dumped on the greenhouse floor.



Location alone may necessitate higher

water usage. For example, operations located near the coast or those using groundwater with high total dissolved salts (including ions of N, P, K, Mg, and Na) might find themselves watering their crops grown in potted media more frequently to avoid a scenario where the media dries out. Overly dry media could lead to root death due to concentrated leftover salts. High sodium levels will lead to Ca, Mg, or K deficiencies. To be specific, operations with high sodium or high total dissolved salts may aim for a 20% to 40% leachate rate, as opposed to a more typical 10% to 20% leachate rate. (Leachate rate measures the amount of water that drains from the bottom of the pot.)

## Cut Back

Only by measuring the water coming into your facility, analyzing where it is being used

most heavily (and potentially wastefully), and identifying how much is going to waste will greenhouse operators start to be able to identify resource-efficient processes and system improvements. One easy place to start is to evaluate watering methods. Drip emitters are a much more sustainable option compared to overhead watering, she notes.

"When we have drip emitters and we're doing low-and-slow irrigation, even if you mess up by a couple of minutes for some reason, your total water volume delivered is not anywhere near what it's going to be in that overhead method." Lewandowski says.

Operators can sometimes minimize their watering by saturating the media with water once per day. Depending on the media's exact composition and its water-holding capacity,

saturating the media once can reduce the total volume of water applied compared to applying multiple amounts of smaller doses.

"We can let that pot dry all day, and that plant does not get to an unhealthy level of wilt," Lewandowski shares. (Note: Not all crops and media will respond as well to drench irrigation compared to drip irrigation.)

Adjusting container sizes, shapes, and dimensions also can help growers find the right balance between drainage needs and water efficiency – the same volume of potting media will hold more water if it's in a low, squat container than if it's in a taller container of the same volume. With higher water-holding capacity, however, comes the risk of anaerobic conditions that could lead to substrate disease such as root rot. Growers will need to monitor



their substrates to ensure they are not over-saturating their media.

Lewandowski advises growers to aim to keep their volumetric water content (VWC) between 50% to 70%, depending on the specific crop. A common mistake she sees cultivators make is cutting their watering down too much.

Depending on the substrate type and the crop being grown, if a cultivator were to maintain a low VWC for extended periods, the crop might struggle to acquire that water, expending energy on resource acquisition rather than on its development (whether yield or secondary metabolite production). That said, this dry-down is sometimes done by growers after transplanting to force the plants to hasten root growth to find more water.

### Optimizing Hydroponic Systems

In hydroponic systems, including drip-irrigated cultivation, water is critical as it is the only way plants get access to nutrients. There are a variety of factors that can exacerbate water waste in these systems, including poor climate and water management techniques.

For example, if the irrigation event flow rate is too high, excess runoff and channelling can cause a larger volume of nutrient solution to pass through the substrate than is necessary, increasing the amount of water sent to waste.

Another mistake she sees in hydroponic operations is drip stakes driven too deeply into the media. “You might have the correct flow rate, and you might be applying the right volumes in any given irrigation event, but if your drip stakes are inserted too far into the media, the water could simply bypass the top of the substrate,” Taft says. “That upper portion will become unsuitable for root colonization and unusable to the plants because it’s entirely dry.”

Growers who then believe their media is dried out are likely to increase their watering (and, consequently, the amount of water that is wasted). Proper drip stake depth varies based on the manufacturer and growing medium used. Taft advises operators to check with their drip stake manufacturer on proper placement. With many of the popular drip stake brands, the deeper you place the stake,

the dryer the surface will remain, whereas a more shallow placement will lead to a wetter substrate surface.

Hydroponic systems can maximize water efficiency by closing the loop—meaning recapturing, recycling, and reusing the nutrient solution. This is largely because inorganic media such as stone wool (aka rockwool) does not contribute excess tannins, cations, or inherent biological contaminants to the leachate water.

While it is more difficult to create a water circularity system with organically derived media (like soil or coco), it is possible to build a system to recycle and reuse water several times before the solution needs to be dumped and replaced.

A water circularity system must be designed with both efficiency and your production practices in mind. Operators using pre-blended soluble powders or pre-blended liquid nutrients typically cannot adjust the individual elemental PPM contributions of their recaptured fraction as nimbly and precisely as those using individualized raw fertilizer derivatives, Taft explains.

That said, if a facility is going to have a hard time sending out samples for quantitative laboratory analyses on a regular basis, or lacks the technical confidence to make on-the-fly adjustments, there are many other systems available to them for drain-water recirculation. This infrastructure might feature components such as UV, ozone, electrolysis, and/or other chemical treatments to sterilize organic pollutants combined with selective membrane filtration, drain water re-introduction tanks, or even reverse osmosis units to strip the solution of ions after multiple uses. Typically, RO systems are avoided for drain-water filtration because of their inefficient ratio of brine water (waste) to permeate (pure water), but some facilities find creative solutions for the brine fraction such as on-site water holding for fire protection, or surface irrigation for salinity-tolerant landscaping plants. And ultimately, any amount of water that is diverted from waste drains is an improvement.

### Keep a Clean House

An often overlooked aspect of water efficiency

practices is to stay on top of mineral and biofilm buildup in irrigation lines, which can reduce the inside diameter of the irrigation lines and lead to restricted water flow and uneven water distribution. The impacts of this buildup can potentially damage or stunt plant growth, which in turn compels growers to avoid recirculating that water.

For example, biofilms and mineral buildup coating the interior of irrigation delivery pipes and tubing can harbour plant pathogens and cause clogs that prevent water and fertilizer from reaching the crops. This can lead to reduced crop yields, loss of crops due to desiccation, and outbreaks of pathogenic organisms in the root zone and the drain water solution.

Taft says the post-harvest reset is the perfect time for operators to inspect and maintain irrigation systems. “Every time you harvest a crop, you have this crucial window of opportunity to use very effective sanitizing agents to eradicate biofilms and mineral occlusion and halt the proliferation of plant pathogens,” Taft says. “At their ideal concentration for cleaning, they would harm or kill plants, so take advantage of every opportunity to clean the irrigation system when the greenhouse is empty before repopulating it with plants.”

An industry best practice, Taft notes, is to “use some kind of acid, most commonly it’s sulfuric acid, to dissolve and strip the mineral layer first.” This will expose the biofilm layer to the subsequent disinfectant or oxidative agent that gets injected. “All too often, people don’t realize there’s usually a mineral salt layer that’s encrusting the biofilm, protecting it in a sense. By removing the layer of salt precipitate first, you can ensure the biofilm is fully exposed to the oxidizer or disinfectant you use, ensuring the solution can make adequate contact with the biological layer.”

Building a CEA facility that maximizes productivity and resource efficiency is a tall order no matter your operation’s size. With the right long-term mindset, an understanding of your operation’s potential, and access to industry-leading information sources, CEA operators can increase both their resource efficiency and their bottom lines.

# FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA- Flowers-Simba	Roses	Rumuruti	Sanjeev	0739360050	sanjeev@aaagrowers.co.ke
AAA- Flowers -Chui Farm	Roses	Timau	Phanuel Ochunga	07522506026	fanuel.ochunga@aaagrowers.co.ke
AAA-Simba Farm	Roses	Rumuruti	-	-	-
Across Agriculture Ltd	Herbs	-	Emily Chepkemoi	0729080186	chep28@gmail.com
Africalla Kenya Ltd	Cuttings	Eldoret	Meindert	-	meindert@africalla.com
Africa Blooms	Roses	Salgaa	Ramnath Sarbande	0798190511	ramnath.sarbande@xflora.net
AgriFlora (K) Ltd		Nakuru, Njoro	Charles Mulemba	0721311279	cmulemba@sianflowers.co.ke
Aquila Development Co	Roses	Naivasha	Prashant Takate	0799356002	gm@aquilaflowers.com
Baraka Roses/ Mumi Flora	Roses	Ngorika	Paul Salim	0746766638	-
Batian Flowers	Roses	Nanyuki	Rakesh	0724631299	
Beautyline	Flowers	Naivasha	Peter Gathiaka	0721392559	peter@beautyli.com
Big Flowers	Roses	Timau	Gideon Waweru	0721178974	gideon@fontana.co.ke
Bigot Flowers	Flowers	Naivasha	Kakasaheb Jagtap	0722205271	jagtap.kt@bigotflowers.co.ke
Bila Shaka Flowers	Roses	Naivasha	Joost Zuurbier	0722204489	bilashaka.flowers@zuurbier.com
Bohemian	Flowers	Nakuru	Thambe Sabaji	0734 740202	-
Black Petals	Roses	Limuru	Nirzar Jundre	0722848560	nj@blackpetals.co.ke
Black Tulip- Lemotit	Flowers	Kericho	Yogesh	0715817369	-
Bliss Flora Ltd	Roses	Njoro	Appachu Sachin	0789101060	appachu7@yahoo.com
Bloom Valley	Roses	Salgaa	Ramnath Sarbande	0798190511	ramnath.sarbande@xflora.net
Blooming Dale Roses Kenya Ltd	Roses	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Blooming Africa	-	Gilgil	Bert	0722204309	bert@blooming-innovations.com
Buds and Blooms	Roses	Nakuru	Shivaji Wagh	0720895911	shivanjik@yahoo.com
Carzan (K) Ltd KS	Summer flowers	Salgaa	Stanley Rotich	0721931710	stanley.rotich@marginpar.biz
Carzan (K) Ltd ST	Hypericum, solidago	Sobeaa	Thaddeus Adung'o	0716019094	thaddeus.adung'o@marginpar.biz
Carzan - Molo	Carnations	Molo	Charles Chelule	0728784081	charles.chelule@marginpar.biz
Chestnut	Vegetables	Naromoru	Gabriel Kiai	-	gabriel.kiai@aaagrowers.co.ke
Colour Crops	Hypericum	Nanyuki	Kennedy Wanyama	0716389472	colourcrops@tmu.com
Colour crops	Summer Flowers-	Bahati	Patrick Kipkurui	0727806184	bahati@colourcrops.com
Colour crops	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Credible Blooms	Flowers	Rumuruti	Eliud Njenga	0722382859	eliud@pigeonblooms.com
Dale Flora	Roses	Mogotio	Brijesh	0715469732	-
Desire Flowers	Flowers	Isinya	Rajat Chaohan	0724264653	rajatchaohan@hotmail.com
De ruiters	Breeder Roses	Naivasha	Ethen Chege	0720477717	-
Dummen Orange	Flowers Breeders	Naivasha	Bart Engels	0759069896	b.engels@dummenorange.com
Eco Roses	Roses	Salgaa	Madhukar Bhalerao	0799555440	Mbhalerao.eco@btfgroup.com
Elbur flora- kimman	Roses	Nakuru	Daniel Moge	0721734104	kimmanexp@gmail.com
Enkasiti Thika	Flowers	Thika	Satish	0735270236	enkasiti@gmail.com
Equinox	Flowers	Nanyuki	Harry Kruger	0707266956	harry@equinoxflowers.com
Everest Flowers Ltd	Flowers	Mt. Kenya	Japheth Chelal	0721770597	-
Everflora Ltd.	Flowers	Thika	Ghanshyam Dusing	0721638005	manager1@everflora.co.ke
Evergreen Crops		Nairobi	Arun Singh	0721941009	arun@evergreencrops.com
Exotic	Roses/ Carnations	Athiriver	Peninah Shimon	0737626533	-
Fairy Flowers	Flowers	Limuru	-	-	-
Fides Kenya Ltd	Cuttings	Embu	Jan Molenaar	0733331580	-
Fontana Ltd - Akina farm	Roses	Njoro	Mahendra Patil	0798254199	mahendra@fontana.co.ke
Fontana Ltd - Ayana Farm	Roses	Mau Narok	Osman	0712933710	osman@fontana.co.ke
Flamingo Horticulture Farm	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@flamingo.net
Flamingo -Kingfisher Farm	Flowers	Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@flamingo.net
Flamingo - Osprey		Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@flamingo.net
Flamingo -Siraji Farm	Carnations, Roses	Nanyuki	Peris Muturi	0729050116	Peris.Ndegwa@flamingo.net
Flamingo - Ibis	summer, vegetables	Nanyuki	Abraham Gitonga	0722605942	-
Flamingo - Pioneer	Roses	Nanyuki	Gregory Sunguvi	-	-
Flora ola	Roses	Solai-Nakuru	Lucas Choi	0721832710	lucas.choi@floraola.co.ke
Flora Delight	Summer flowers	Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com
Florensis Ltd	Cuttings	Naivasha	Simon Mwangi	0721519470	simon.mwangi@florensis.com
Florenza Ltd 1 & 2	Roses	Solai	Vivek Sharma	0731040498	farm.florenza@megaspingroup.com
Fresh Gold Flowers Ltd	Flowers	Mt. Kenya	John Karimi	0721622294	karimi@freshgoldkenya.co.ke
Gatoka Roses	Roses	Thika	Herman Njuguna	0728 854 844	info@gatokaflowers.com
Golden Tulip	Roses	Olkalao	Umesh Choudhery	0739729658	umesh.gftl@btfgroup.com



# FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Groove	Flowers	Naivasha	John Ngoni	0724448601	groovekenya@gmail.com
Hanna Roses Ltd	Roses	Thika	Dinkar Wandhekar	0702418174	dinkar@eaga.co.ke
Heritage Flowers Ltd	Roses	Rumuruti	Sailesh Kumar	0722203750	hfl.srk@gmail.com
Highland plantations	Cuttings & Herbs	Olkalou	Mangoli Dickson	0792847884	production@highlandplants.co.ke
Interplant Roses	Roses	Naivasha	Gavin Mouritzen	0733220333	info@interplantea.co.ke
Isinya	Flowers	Isinya	Rajesh	-	pm@isinyaroses.com
Karen Roses	Flowers	Nairobi	Peter Mutinda	0723353414	pmutinda@karenroses.com
Kariki Ltd- Thika	Flowers	Thika	Miriam	0720674307	kariki.production@kariki.biz
Kariki Ltd - Nanyuki	Eryngiums	Nanyuki	Peterson Thuita	0724786004	bondet.fm@kariki.biz
Kariki Ltd - Naivasha	Summer	Naivasha	Esau Onyango	0728606878	hamwe.production@kariki.biz
Kariki Ltd - Molo	Fowers	Molo	James Oluoch	0716333717	jame.oluoch@kariki.biz
Kenflora Limited		Kiambu/ Limuru	Abdul Aleem	0722311468	info@kenflora.com
Kentalya	Cuttings	Naivasha	Lynette	0733549773	lynette@kentalya.com
Kikwetu Flowers	Roses	Mt. Kenya	Rathan	0787266007	
Kisima Farm Ltd	Roses	Timau	Craig Oulton	0722205828	craig@kisima.co.ke
Kreative	Roses- Breeders	Naivasha	Bas Smit	0733607755	info@kordes-ea.com
Kongoni River Farm - Gorge Farm	Roses	Naivasha	Anand Patil	0728608785	anand.patil@vegpro-group.com
Kongoni River Farm - Liki River	Flowers	Nanyuki	Madhav Lengare	0722202342	madhav@vegpro-group.com
Kongoni River Farm - Star Flowers	Roses	Naivasha	Jagtap Shahaji	0792547633	japtag@vegpro-group.com
Kongoni River Farm - Kongoni	Flowers	Timau	Kadam	0721274413	--
Kongoni River Farm -Bemack	Flowers	Timau	Balasaheb Ingwale	0717181102	balasaheb@vegpro-group.com
Kongoni River Farm - Galaxy	Roses	Naivasha	Chandrakant Bachche	0724639898	chandrakant.bachche@vegpro-group.com
Kongoni River Farm- Longonot	Roses	Naivasha	Ravi Sathe	0715173603	ravi.sathe@vegpro-group.com
Lamorna Ltd (Herburg Group)	Roses	Naivasha	Vijay	-	admin@lamornaflowers.com
Lathy Flora & Fairy	-	Kiambu	John Mbaoni	0753888126	info@lathyflora.com
Lauren International	Flowers	Thika	-	-	laurenflowers@accesskenya.co.ke
Laurel Investment	Roses	Olkalou	Ravindra Palshikar	0740569286	ravi.lil@btfgroup.com
Lolomarik	Roses	Nanyuki	Topper Murry	0715 727991	topper@lolomarik.com
Lobelia	Roses	Timau	Ken Mwiti	0722475785	info@lobelia.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflowers.com
Maua Agritech	Flowers	Isinya	Kori	115355251	kori@mauaagritech.com
Mau Flora	Roses	Nakuru, Turi	Manju	0748254171	manju@mauflora.co.ke
Milenium Growers	Summer Flowers	-	Sushant Wankara	0731316000	sushant@marvelgreens.com
Molo Greens	Solidago, carnations	-			
Mt. Elgon Orchards	Roses	Tran Nzoia	Bob Anderson	0735329395,	bob@mtelgon.com
Mt. Kenya Alstromeria	Alstromeria	Meru	Miriam	0716162671	miriam@mountkenyaalstromerialtd
Mzuurie Group	Roses		Andrew Wambua	0724256592	awambua@moloriverroses.co.ke
Mzuurie Flowers - Maji Mazuri	Roses	Moi's Bridge, Eldoret	Mark Juma	0727471034	mjuma@majimazuri.co.ke
Mzuurie Flowers - Molo River Roses	Flowers	Kilewa	Paula Koros	072241436	pkoros@moloriverroses.co.ke
Mzuurie Flowers - Winchester Farm	Roses	Karen	Kasoso Joseph	0725696509	-
Mzuurie Flowers - Winchester Farm	Flowers	Bahati	Joseph Kasoso	0725696509	jkasoso@winchester.co.ke
Nini Farms (Herburg Group)	Roses	Naivasha	Vijay Bhosale	0702662297	vijay.bhosale@herburgroses.nl
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
Ol Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegu@olnjorowa.com
Panda Flowers	Roses	Naivasha	Sundhar	0748436571	farm@pandaflowers.co.ke
Panocol International	Roses	Eldoret	Paul Wekesa	0722748298	paul.wekesa@panocol.co.ke
Penta	Flowers	Thika	Tom Ochieng	0723904006	tom@pentaflowers.co.ke
Pendekeza	Roses	Nanyuki	James Kiiru	0708124381	tambuzi.sales@tambuzi.co.ke
PJ Dave Flowers	Flowers	Isinya	Pravin Yadav	0708920202	gm@pidave.com
PJ Dave	Roses	Timau	Shantaram	0732556256	fmrisingun@pjdave.com
PJ Flora	Roses	Isinya	Santos Kulkarni	0738990521	santosh@pjdaveflora.com
Plantech Kenya Ltd	Propagators	Naivasha	Idan Salvy	0702187105	idan@plantechkenya.com
Porini Flowers	Roses	Molo	Shakti Vanjimuthu	0739676998	shakti@poriniflowers.com
Primarosa Flowers Ltd	Roses	Ol njororok	Peter G. Njagi	0723575461	opm@primarosaflowers.com
Rain Forest Farmlands Ltd	Roses	Naivasha	Boniface Kiama	0722780811	bkiama@fleurafrica.com
Ravine Roses Flowers	Flowers	Eldama Ravin	Peter Kamuren	0722205657	pkamuren@karenroses.com
Redland Roses	Flowers	Thika	Kadlag Palaji	0723149968	-
Redwing Flowers	Flowers	Nakuru	Simon Sayer	0722227278	sayer@redwingltd.co.ke





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