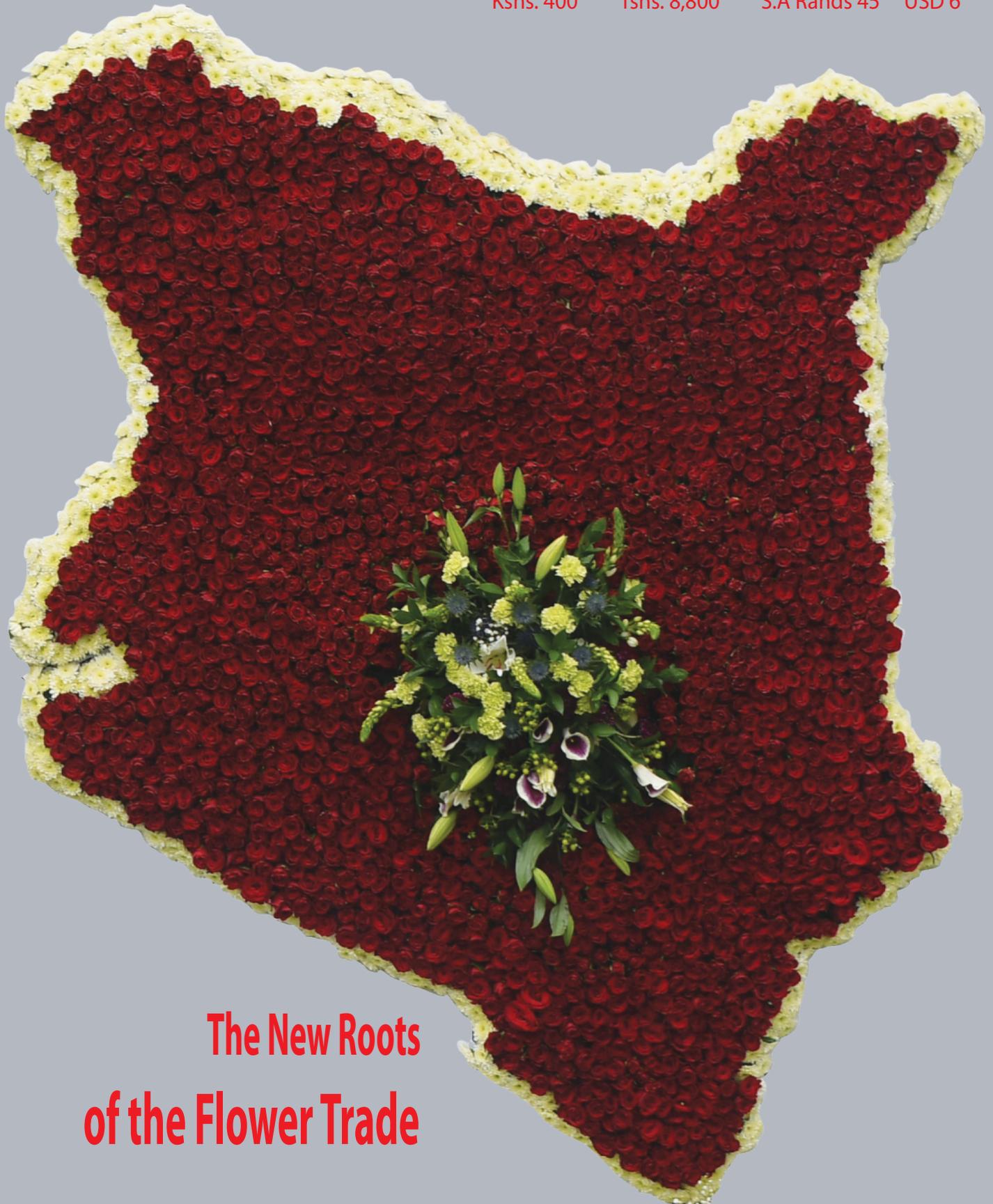


January - February 2020

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**The New Roots
of the Flower Trade**



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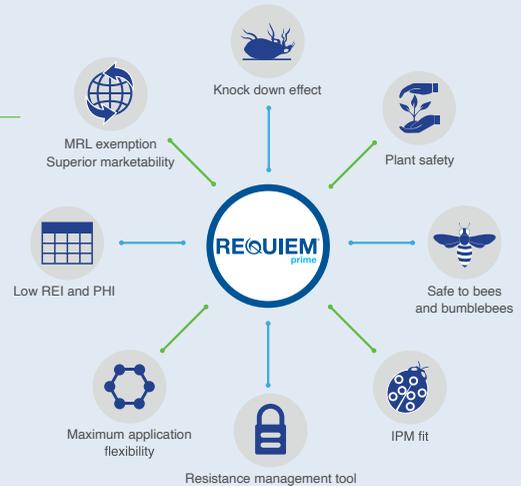
Requiem[®] prime is a blend of three plant-derived terpenes modeled after a plant extract of *Chenopodium ambrosioides* near *ambrosioides* with a valuable contact insecticide efficacy.

Product at a Glance

Indication	Insecticide
Brand Name	Requiem prime
Chemical Class	Not applicable (terpenes)
Active Ingredient	Terpenoid blend (α -terpinene, p-cymene, d-limonene) modeled after a plant extract of <i>Chenopodium ambrosioides</i> near <i>ambrosioides</i>
Application method	Foliar spray
Pest Spectrum	Sucking pests: whiteflies, thrips, aphids, mites, psyllids

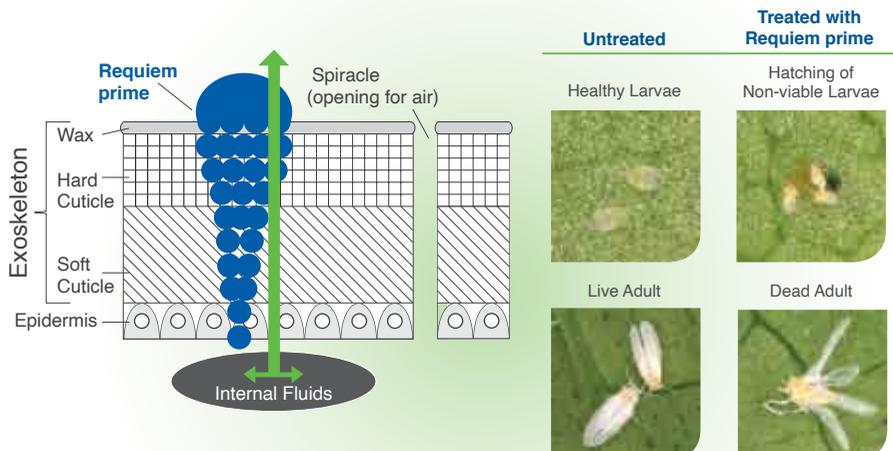
The Key Benefits are:

- + Unique biological mode of action, providing resistance management tool
- + Knock down effect
- + Minimum Residue Level (MRL) exemption
- + Pre-Harvest Interval (PHI): 0 days, low Re-Entry Interval (REI): 4 hours
- + Compatible with Integrated Pest Management (IPM)
- + Safe for pollinators and beneficials when used as directed



Mode of Action

The mode of action of Requiem prime is classified non-toxic. Based on laboratory and field trial observations, the mechanism for controlling insect pests is through degradation of soft insect cuticles resulting in a disruption of insect mobility and respiration. This occurs by direct contact and localized fumigant action. Thus, the application technology is critical to ensure the product's efficacy.



Requiem prime has anti-feeding and repellent properties and also reduces virus transmission.

Terpenes, including those found in **Requiem prime**, work as strong repellents to specific insects, including thrips and whiteflies.



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Cover: Courtesy of Kenya Flower Festival

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.



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No! Lunatics Never Unite

Last year I was taken around a mental hospital by the officer in-charge. At one point he took me to a balcony overlooking a crowded ward where the most violent and dangerous lunatics were kept. They were one hundred of them, all watched over by only three guards with no weapons!

I was perplexed. I turned to the in-charge and asked "aren't you afraid these dangerous lunatics will gang up against the guards?" The in-charge calmly replied, "No, lunatics never unite".

I learned a great lesson from a single statement. And this is the lesson I would like to share with the growers this year: In unity lies strength.

We had a challenging 2019 and, more importantly, adequately prepared for the future. We may have witnessed accelerated sales diminishing, high costs and made key changes in the business. But this is not enough.

We now need to achieve unity of thought, unity of feeling, unity of purpose- to that extent where our strengths be joined and make us a force. Perhaps many may ask: Why? Precisely because this is the time to reflect upon the market and production challenges and lay down an aggressive plan on how to succeed. The optimisms tell us things will be OK. The question is for how long since time never waits for anyone. We need unity against markets which are



changing goal posts anytime.

We need to unite and lobby against some punitive taxes the Government is doing. We need unity to articulate our case against a myriad of restrictions effected by government and which negatively affect the consumers.

If we won't unite, we would be behaving like lunatics and that will be the source of our individual ruination and we will be like lunatics, who never unite.

*Masila Kanyingi
Editor*



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The New Roots of the Flower Trade

The story of the world's trading networks told through eight everyday products.

For more than 200 years, the heart of the global trade in cut flowers has been the Netherlands. The world's largest global auction for flowers began, famously, in a pub. One trader turned to his peers and asked, how much?

The question was the start of the most dynamic and highly organised trading sites for flowers in the world. Now known as the Royal FloraHolland auction house at Aalsmeer, near Amsterdam, the floor of a cavernous warehouse is home to a giant game of Tetris with living flower stems bustled about on trolleys, to be bought, sold and dispatched.

As it has done for years, Royal FloraHolland still plays a critical role importing and then re-exporting 40% of flowers from all over the world. But newer players in the flower

trade are making their presence felt, shifting the dynamics of production. As transport technology develops, producers in regions elsewhere, including sub-Saharan Africa, are challenging the Netherlands' traditional hold on the industry.

The scale of the global market for cut flowers is large, and increasing. In the UK alone, the market for cut flowers and ornamental plants was worth £1.3 billion in 2018, according to government statistics. Around 90% of these flowers are imported – the vast majority still coming via the Netherlands. In 2015, the global trade in flowers was worth around €15bn (£10.6bn), with stems shuttled between continents with breath-taking speed.

Keeping up with the world's demand for flowers involves an intricate and delicately

balanced supply chain of workers, farmers, wholesalers, airlines, cargo ships, traders, florists and supermarkets.

Getting something as delicate as a bunch of flowers from one continent to another without them being crushed or wilting is a daunting technological feat.

Cut flowers have to be transported quickly using a “cold-chain” – a series of refrigerated facilities on farms, lorries, planes, and boats – which put the flowers into a dormant state, so they stay fresh. This allows a rapid transfer from farm to shop within 24-48 hours, if going by plane, says Sylvie Mamias, secretary general of



In the UK, 80% of cut flowers come via the Netherlands, according to the British Florist Association, although a significant proportion originate in Kenya. Some Kenyan flowers also come straight to the UK on direct flights from Nairobi, where entire terminals at certain airports are dedicated to flights exporting blooms.

One of the reasons behind the increase in flower exports in Africa dates from the 1970s, says Mamias, when an oil crisis increased the cost of heating greenhouses

of sunlight, and cheaper labour. The change also meant an end to seasonal production and the beginning of a 365-day-a-year international competitive trade.

Kenya is particularly important as a source of roses – the country supplies one third of all roses sold in the EU, according to Union Fleurs. Cut flowers are now Kenya's second largest export after tea, contributing around 1% of the country's GDP. They are also one

Union Fleurs, the international flower trade association.

“Our love of flowers might seem frivolous, but it drives a worldwide industry worth billions of pounds.

While the Netherlands dominates the trade, countries on the equator are becoming increasingly important as growers.”

of the country's largest source of employment, with over 100,000 people working directly in the flower industry and an estimated two million indirectly.

Time is critical: for every extra day spent travelling flowers lose 15% of their value.

Vase life: The length of time flowers stay fresh after reaching the customer – is then usually 12-15 days, Mamias says.

The biggest buyers of cut flowers are the EU and the US, but the biggest growers and exporters are the Netherlands, Ecuador, Colombia, Kenya and Ethiopia. Roses, carnations and chrysanthemums are the most popular blooms.

in northern countries. As a result, production moved south where flowers could be grown with little energy input all year round. For Europe, this meant seeing more flowers imported from Israel and Morocco, and later East Africa, while US buyers developed trade with Latin America.

These new producers had three things in common: areas of high altitude with cool nights, which many flowers benefit from, proximity to the equator for maximum hours

Kenyan grow almost millions of stems a year across.

Located in different regions they export to over 60 countries worldwide, including the UK, Holland, Russia, Australia, the US and China.

As demand for Kenyan flowers has grown, so has growers, says Maggie Hobbs of

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Tambuzi, who took on the business two decades ago.

“We have grown from 20 people growing roses outdoors, to over 500 people on three sites, growing under plastic greenhouses,” says Hobbs.

Flower farms are some of the biggest employers most of them are certified Fairtrade farms, 10% of the sale price goes back to the workers.

Roses are chosen from a breeder and trialled on the farms. “We look at whether they have the scent we love, the number of petals, their tolerance to pests and disease, their colour, and yield,” says Shikuku.

In the commercial greenhouses, workers monitor the soil pH and organic matter, drain the land, weed and feed the roses. Drip-irrigation transports water directly to each plant, minimising waste. To protect the plants from pests and disease, the flowers are sprayed and predatory mites are released to eat insects such as red spider mites and thrips, which feed on and damage the plants. Sticky traps are also set to catch pests such as whitefly.

After eight weeks, in some farms workers “bend” the rose stems so shoots start to sprout. The weaker stems are pinched off, leaving only the strongest. At 20 weeks they are harvested by workers, most of whom are women. They cut the stems and put them into a solution of nutrients, tricking the flower into thinking it’s still attached, so it continues to grow.

The stems are quickly transferred to a cold store and cooled

to 4°C before being graded, sorted into bunches in the packing house, and returned to the cold store. Finally, they are transported in refrigerated lorries to Nairobi’s airport.

Farms harvest throughout the year, with one truckloads of flowers leaving the site every day, although at peak times – Mothers’ Day, Valentine’s Day and International Women’s Day – this can double. From harvest to the end customer in the UK, the process takes three to four days, says Shikuku.

Despite farm’s careful management, they are facing growing challenges. Climate change is making it increasingly difficult to plan farming activities. “Last year we had floods I have never seen in my lifetime. Then, when there is drought, it’s extreme – it is worsening every year.” To help deal with this, the farms harvest rainwater, and some have installed solar panels, and moved most of their production indoors so it can better control the growing environment.

A fair deal

Farm have brought steady employment to areas with few job opportunities. For 50-year-old Mary Wanjiru Karanja, it offered a welcome change in career. Wanjiru Karanja has been working at Tambuzi for five years and has risen from picker to team leader, helping to manage 64 people. She used to run her own tailoring and dressmaking business, but moved to Tambuzi because the pay was better.

Working with the Fairtrade Foundation, farms are actively promoting more women to leadership roles. “We’ve seen women rise up from harvesters to managers,” says Ngari. “Women like Mary are challenging the status quo – to educate her children to such a high level has not been seen in her village before.”

Four countries – Kenya, Ethiopia, Ecuador and Tanzania – account for

98% of certified Fairtrade flower production. Kenya makes up the greatest proportion, with 39 of the world’s 67 certified Fairtrade flower organisations. These cover around 30,500 people – about 30% of all flower workers in the country.

The Fairtrade flower premium generates about £6 million (\$7.5 million) for Kenyan flower workers and their communities a year, according to the Fairtrade Foundation. Workers collectively decide how to spend the money – this might go directly to them and their families, or to community services such as education and housing. The premiums can also go towards dedicated medical services to provide much-needed rural healthcare facilities. Some farms go further, and provide hospital services for free for workers and their families, and subsidised care for the rest of the local population.

“In recent years the rapid development of the flower industry in East Africa has driven domestic economic growth, increased investment and provided job opportunities,” says Anna Barker, flowers supply chain and programmes manager at the Fairtrade Foundation. “But many of the people suffer low wages and poor working conditions. “When we choose a bunch of Fairtrade flowers in the UK, the workers behind them are benefiting from safe working conditions and families are able to send their children to school and access healthcare.”

The UK market for Fairtrade flowers is worth around £21 million (\$26 million) – about 2% of the country’s overall flower and plant market, according to UK government statistics. Globally, the market is growing, the Fairtrade Foundation says: 829 million Fairtrade flower stems were sold in 15 countries in 2016, up 5% on the previous year, and this increased to 834 million in 2017.

However, this was only about 20-30% of the 3.8 billion flowers grown by Fairtrade workers in 2016 – the rest went to the



The biggest buyers of cut flowers are the EU and the US, but the biggest growers and exporters are the Netherlands, Ecuador, Colombia, Kenya and Ethiopia. Roses, carnations and chrysanthemums are the most popular blooms.

non-Fairtrade market because demand is not yet big enough, meaning workers did not receive additional money for those flowers. For more workers to benefit from the Fairtrade premium, sales would need to increase through a combination of consumer demand and more businesses sourcing Fairtrade flowers.

At the airport

At Nairobi's Jomo Kenyatta International Airport, world demand for flowers has become so high that it has a dedicated flower terminal.

Flowers travel many kilometers by road to the airport. A Boeing 747 can carry 90 tonnes of flowers. In a slow week, about 30 flights loaded with passengers and a hold full of flowers will leave the airport. But in the run-up to Valentine's Day this figure may rise to 100.

The introduction of direct flights over the years has resulted in major developments in trade relations between

countries such as America, the UK and China.

Flying flowers thousands of miles undoubtedly uses more energy than transporting them shorter distances, but being on the equator means flower farms themselves can be less energy intensive. "You don't need to heat your greenhouses, you have more sun exposure – energy usage would be much less than growing flowers in Europe," says Union Fleurs' Sylvie Mamias.

For this reason, roses grown in Kenya and sold in Europe produce 5.5 times fewer greenhouse gas emissions than those raised in the Netherlands, even taking into account air transport, according to research commissioned by the Fairtrade Foundation.

Final stop

What happens next – when flowers reach their destination – varies from place to place. The UK is the only country in Europe where the majority of flowers are bought

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in supermarkets – on the continent most people go to florists, says Mamias.

This means the supply chain is often shorter for flowers reaching the UK, because supermarkets tend to buy direct from suppliers, cutting out the middle-men and reducing costs. Sometimes they might get a wholesaler in the UK to put their bouquets together, mixing flowers from all over the world.

Specialist florists, on the other hand, often buy from wholesalers or go to New Covent Garden Flower Market in London, which receives its flowers mostly via the Netherlands. One of the most specialised

Simon Lycett, based in south London.

Lycett is known for his dream-like creations and was the florist for the wedding of the Prince of Wales and the Duchess of Cornwall. He has created flower arrangements for Hampton Court Palace, the Royal Opera House, St Paul’s Cathedral and Kensington Palace.

About 10% of the roses he buys come from Kenya. The roses from Kenya are “large, multi-petalled and voluptuous”, says Lycett.

“The fragrance is extraordinary. If a client wants to be taken back to their granny’s garden, they are immediately transported by the scent.”

His team buy from New Covent Garden Flower Market every day. For a Saturday event, they will buy on a

A typical wedding that Lycett works on uses 20,000 roses, but he buys hundreds of different types of flowers, including hydrangeas, peonies and orchids.

“Every client will say they just want it to look perfect. It’s about impact, fragrance, abundance and perfection,” says Lycett.

For developing countries like Kenya, the cut flower industry has brought much-needed employment and opportunity, and it is an increasingly important part of their economic development. In Kenya, flower exports generate income for around 4% of the population, while in South America the trade is a major source of employment in Colombia and Ecuador.

But there are still many challenges ahead. One is the industry’s reputation for poor working conditions, including low pay. But in recent years, conditions have vastly improved for workers in many countries, the Fairtrade Foundation says. Another is the growing concern of climate change, with farms trying to find better ways to

use dwindling and less predictable water resources.

Tuesday or Wednesday to ensure the flowers are still perfect on the day.

The roses arrive packed in cardboard sleeves and Lycett and his team re-cut the stems, strip the leaves, and put the flowers in cool water.

The journey from field to consumer is a long and complex one for something as delicate as a cut flower. For a bloom to maintain its value, it must cover these thousands of miles remaining intact and blemish-free. Over the years, the technological solutions to keep flowers fresh and perfect looking have been honed to a fine art. The next big step will be finding equally robust social and environmental solutions to make sure the trade is truly fair and sustainable.

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Cut Flower Sector

Wilting Under New Rules, Competition



With a perfect all-year growing climate, affordable labor and access to temperature-controlled air freight, Kenya has all the ingredients to become one of the top flower producers in the world.

Hopes by Kenya's flower growers to exploit the lucrative United States market and stop dependence on the European market has not borne much fruit despite the recent launch of direct flights between Nairobi and New York.

In spite of optimism and excitement after national carrier Kenya Airways (KQ) started direct flights to the US, the airline's business strategy of focusing on passengers as opposed to cargo has dashed the hopes of the flower industry of targeting the market that has remained elusive.

This is bad news for the industry which despite being the second leading foreign exchange earner after tea, is grappling with a myriad of challenges that are threatening the country's position as Africa's leading producer of



cut flowers.

The sector is currently dealing with challenges ranging from high cost of production, increase in taxes, delays in tax refunds, stringent phytosanitary requirements in the European Union (EU) markets like new demands on fumigation by key market Australia to intensifying competition from emerging flower producers like Ethiopia, Rwanda, Uganda and Tanzania.



In the midst of these predicaments, the decision by KQ to dedicate the new route majorly to passengers, means the flower industry cannot count on the national carrier to penetrate the US market.

Already most of the cargo space has been seized by Export Process Zones-based

Main Story

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manufacturers of textiles and apparels that constitute Kenya's main export to the US under the Africa Growth and Opportunity Act.

"There is very little for Kenya in the US market for now," said Clement Tulezi, the Kenya Flower Council chief executive. He added that although KQ can decide to help the industry by introducing a dedicated cargo flight, there is the issue of the return flight flying back empty because Kenya's main imports from the US are bulk machinery, cereals and aircraft that are shipped here.

Currently, Kenya accounts for less than one per cent of the US flower market, earning less than \$10 million annually, with Colombia dominating at 70 per cent followed by Ecuador at 20 per cent. These two countries also have the advantage of proximity.

Although Kenya cannot continue depending on the EU for sustainability, we must protect our key markets and seeking new ones in Asia.

Flower markets

In 2017, Kenya exported 450,000 tonnes of cut flowers, with the EU providing 66 per cent of the market. Other key markets for Kenya are Japan, Australia and China while efforts are ongoing to increase presence in promising markets like Russia, Turkey, South Korea and India.

Kenya is particularly upbeat on increasing exports to China with recent positive relationship the country has with Kenya.



Kenya has maintained an impressive performance in the cut flower sector. Notably, 65 per cent of Kenya's flowers are sold at the world's largest flower auction in the Netherlands, meaning they lose identity by being branded by the buyers rather than the producers.

The country is trying to increase direct sales from the current 35 per cent to 50 per cent to enhance the visibility of the Kenyan flower brand.

Volumes

Although Kenya is basking in the continuous good performance of the cut flower industry, with land under flower cultivation increasing to about 3,300

hectares in recent years from 2,500 hectares, the industry is in a state of panic over mounting challenges.

"The long term survival of the industry is at stake because we have a feeling the government does not care about the industry but only cares about the taxes it generates," stated Mr Tulezi.

He added that while 60 per cent of sales are recorded during the Christmas season and Valentine Day in February, Kenya is struggling to accumulate enough volumes for these high peak seasons due to biting challenges.

As part of the war on counterfeits, the

“Although Kenya is basking in the continuous good performance of the cut flower industry, with land under flower cultivation increasing to about 3,300 hectares in recent years from 2,500 hectares, the industry is in a state of panic over mounting challenges.”

Kenya Bureau of Standards (Kebs) introduced 100 per cent inspection on all soluble fertiliser shipments entering the country amidst protests by industry players that the accepted trend worldwide is based on pre-shipment inspection.

Flower farming depends on specialised fertiliser and the decision by Kebs affected the industry badly.

Considering that Kebs lacks the internal capacity to inspect the volumes of shipments, the decision has ignited a major crisis.

The problem of inputs has been compounded by the move to introduce 16 per cent value added tax (VAT) on crop protection products like pesticides, a development

the industry reckons increased the cost of production and make Kenya's flowers expensive.

Although it previously costed \$0.21 on average to produce one rose flower, with the new tax, it will cost \$0.36. Also at play is the fact that before the tax, Kenya used to sell a kilogramme at \$0.3 compared with Ethiopia that sells at \$0.28 per kg.

VAT refunds

The issue of fertiliser and pesticides, however, are problems that have cropped up

Revenue Authority over VAT refunds, with the taxman owing some flower firms as much as \$500,000 with others having not been refunded since 2013.

Yet even as it battles internal challenges, the flower industry is also under attack. To start with, the EU has continuously introduced new phytosanitary requirements that demand low concentrations of chemicals.

The requirements are forcing flower farms to seek alternatives methods of crop management, with expensive biopesticides and integrated pest management being the main options.

While overcoming these challenges is hard enough, the emergence of new cut flower producers, particularly Ethiopia, is causing jitters that Kenya's dominance is diminishing, albeit slowly.

“Ethiopia is coming up well thanks to government subsidies but we are still 30 per cent ahead in volumes,” noted Tulezi, adding that it might take Ethiopia another 10 years to catch Kenya.

For Ethiopia, factors like availability of land, cheap labour and government incentives coupled with a vibrant logistics industry anchored by Ethiopian Airlines have provided a fertile ground for the flower industry to bloom.

Currently, the Ethiopian cut flower industry is raking in about \$300 million annually and the government is targeting earnings in the region of \$1 billion in the medium term.



recently. For years, the industry has been at loggerheads with the Kenya

Kenya is particularly upbeat on increasing exports to China after President Uhuru Kenyatta signed a horticulture export deal with his Chinese counterpart President Xi Jinping.

Finlays shuts down Kericho farms, but expands Londiani farm Pieter Kelderman explains

Finlays shut down their farms, Chemirei and Tarakwet, in Kericho (Kenya) on 25th December. However, they will continue to expand their Lemotit farm in Londiani, and they will double the size of their packhouse. But what is the reason for the closedown of the Kericho Farm? What will happen with the employees and how will they continue? We had a chat with Piet Kelderman, Commercial Manager of Finlay Flowers who explained it all.

The shutdown - costs too high

In April 2018 Finlay Flowers announced that it would be closing its operations in Kericho over a three year phased program. Recently, the company decided to accelerate the closure and brought the date forward by twelve months. But what was the reason for this decision? “The costs”, says Kelderman, “Specifically around labour. When Finlay Flowers started in Kericho in 1989, its labour costs were aligned with the tea industry and it remains like this to this day. The salaries are higher – approximately twice as high as the rest of the flower industry in Kenya and this has made the farms in Kericho uncompetitive.”

What about the workers?

But what will happen with the workers who worked at the farm? Kelderman: “All our workers will be paid their terminal dues in accordance with the laws of Kenya. After that, they will be able to look for opportunities in the other divisions of Finlays such as Tea Estates, Tea Extracts and we hope some will also join us in Londiani.”

Expansion Londiani Farm

As the Kericho farm will be closed down, the demand for their flowers needs to be met. Therefore, Finlay Flowers have decided to expand their farm in Londiani, which currently is 50 ha. They will use some of the infrastructure from Kericho to

expand the number of greenhouses up to 60 hectares. In addition, they will double the size of their packhouse, build eight manager’s houses, build a workshop for their sizeable fleet and a canteen for their employees.

Investment in workers

At Lemotit Farm in Londiani, investments are made to improve the life of their workers. They have, for example, invested



in a dispensary and this year added a laboratory to be able to take blood tests and provide employees with quick results. “Usually, workers could pick up their medicines at the farm, but they had to go to the village for blood tests. Now, they can do it here as well.” On top of that, they are also building a canteen which will be operated in partnership with Fairtrade. “The workers have a 1.5 hour break. Most workers find it too short to go to the village so they often stay at the farm, but often do not bring lunch. When the canteen is finished the

workers can easily stay at the farm and buy lunch for a reasonable price.”

Bouquets

Finlays is known for their bouquet production, and 70 percent of what is being packed in Londiani is packed at source. This will soon be 100 percent. “In the Netherlands, UK and Norway the bouquet makers are having difficulties with getting people to make bouquets. On top of that, it is becoming a more expensive task and is, therefore, more and more outsourced.” An additional advantage for the consumer is the quality of the bunch. “The quality will be higher, as it is only being handled once, and will, therefore, have a longer vase life.”

All kinds of Fairtrade flowers

In the bouquets of Finlays, one can find all kinds of Fairtrade flowers. “Besides the fact that we are Fairtrade certified, we also have products that are not available as Fairtrade anywhere else.” Kelderman is pleased with the decision to expand Lemotit Farm. “Due to the low rose prices, a lot of Kenyan rose farms are now deciding to do something different. I am glad that we took this decision early, as it is already bearing fruit.” Finlays’ assortment has increased significantly over the years and their portfolio of bouquets is about to grow even further as they are going to produce mini-gerberas, eryngium and limoniums



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- The Conductivity/TDS conversion factor (CONV) can be selected by the user, as well as the coefficient β (BETA) for temperature compensation.
- The instruments can be calibrated at one point. Measurements are highly accurate with a unique stability indicator right on the LCD.
- The models are also provided with a low battery symbol which warns the user when the batteries need to be replaced.
- The encapsulated temperature sensor allows fast and accurate temperature measurement and compensation.

Range	pH	0 to 3999 μS/cm
	ORP	0 to 2000 ppm
	Temp	0.0 to 60.0°C / 32.0 to 140.0°F

Resolution	pH	1 μS/ppm
	ORP	1 μS/ppm
	Temp	0.1°C / 0.1°F

Accuracy	pH	±2% f.s.
	ORP	±0.5°C / ±1°F
	Temp	



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Union Fleurs Floriforum 2019: A conversation on “Customer Dynamics” worth joining!

On 5 November 2019, over 150 executive managers and decision makers from companies and organisations active across the international floriculture supply-chain came to the IFTF Auditorium where the second edition of Floriforum took place.



Organised by Union Fleurs, the International Flower Trade Association on the eve of the opening of IFTF, Floriforum focused this year on the topic of “Customer Dynamics”. As Richard Fox, Union Fleurs President, recalled in his opening statement: “After starting on safe ground, we decided this year to be more adventurous and explore the very last segment of the supply-chain which is crucial for continued success of the floricultural industry.”

What makes customers tick? And why getting a better grasp on customer dynamics is highly relevant to the floriculture supply-chain?

Inspired by several case studies presented by keynote speakers Martin De Munnink, Dennis van der Lubbe and Phill Burton, participants had the chance to get unique insights and exchange views on the current and future challenges for the sector in the area of customers, and how companies and organisations can adapt individually, but also in unison as a sector to tap into the powerful essence of flowers and plants.

“Whatever you do, you need to understand the customer to be successful” said Phill Burton, Chief Operating Officer of Bloom & Wild, the success-story floral start-up which started in the UK 6 years ago to quickly expand in Ireland, France and Germany with their unique “Letterbox flowers” concept. He explained how he took his company from zero to selling 1.9 million bouquets annually by focusing their efforts on customer satisfaction through NPS (Net Promoter Score) metrics –, a which uses the power of customer engagement to continuously innovate the business with one motto: customer first!

Previously the audience had been introduced by Martin de Munnink, Co-founder and CCO of Neurensics, to the amazing and untapped power of neuroscience when it comes to marketing and understanding customer behaviours. Our brains process no less than 500 million decisions a day, so how can we positively influence buying behaviours for flowers and plants and satisfy everyone’s longing for more colourful, happiness and

beauty in their lives?

Dennis van der Lubbe, Managing Director of the Flower Council of Holland, gave his response to this question by explaining how the flower council had used Neurensics’ research to analyse the emotional effects of their latest commercial “We need more flowers”, and the changes they made accordingly, which resulted in one of the council’s most successful campaigns ever! Enough elements for panellists Kate Penn, CEO of Society of American Florists (SAF), Paul Barton, Consultant European Sales & Marketing at the Flower Hub and Dennis van der Lubbe to continue the afternoon in a dialogue with the audience, on how can the supply-chain capture these new opportunities, what needs to be adjusted and where to make it happen for the benefit of all along the supply-chain, including in terms of pricing and value-added.

Thanks to the apt and dynamic moderation by Simone von Trier, and the upstream work of Union Fleurs’ Secretary General Sylvie Mamias and her team in organising the programme for the afternoon, the event finished on a high note, and satisfaction was palpable among the participants during the closing cocktail. A clear confirmation, if needed be, that there is an appetite for such an open forum to discuss in an interactive way with peers and experts the various changes and challenges that influence floriculture businesses no matter what part of the supply chain or country they operate in.

Floriforum 2019 was organised by Union Fleurs, the International Flower Trade Association, and co-sponsored by HPP Exhibitions. Many thanks to the speakers for their outstanding contribution and to all the attendees for taking time out of their hectic schedule during the Dutch flower week to take part in the conversation!

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Successful Thrips Management: Much More than Insecticides

Identification

Most adult thrips are about 1 - 2 mm long, slender insects that possess piercing-sucking mouthparts. Barely visible to the naked eye, they have long fringes on the margins of both pairs of their long, narrow wings. Their juveniles (called nymphs) are slender and elongate and lack wings. Most thrips range in colour from translucent white or yellowish to dark brown or black. Out of the more than 6,000 species of thrips, the western flower thrips (WFT) tops the 'least wanted' list among flower growers worldwide as the most damaging and hardest to control.

Biology

Knowledge of thrips biology and damage are important in understanding the challenges associated with developing a sound management programme. A thrips life cycle consists of an egg stage, two nymphal stages, two pupal stages, and an adult. The life cycle generally takes two to three weeks to complete. This, however, is temperature dependent with the optimum range between 26oC and 29oC during which the life cycle may be completed in 7 to 13 days. Adult females can live for up to 45 days laying 150-300 eggs.

Thrips management is extremely difficult

due to several biological characteristics. Thrips eggs are inserted into leaf or petal tissue and are thus protected from insecticides. The eggs hatch into nymphs which usually remain protected in flower buds or foliage terminals. They pass through two nymphal stages, both of which feed in these protected areas. Toward the end of the second nymphal stage, the insects stop feeding and move down into the soil or leaf litter to pupate. The thrips pass through two 'pupal' stages (prepupal and pupal), during which no feeding and little movement occurs. While in these pupal stages in the soil, they are protected from insecticides directed at the crop.

Adults emerge from the soil and feed in protected areas of the plant such as flowers and terminals. Adults fly readily and can be carried on wind currents or on clothing to greenhouses near infested fields. They can fly from sprayed to unsprayed areas or move in or out of a greenhouse through doors or vents.



'After climbing one great hill, one only realizes that there are many more mountains to climb'. This old adage attributed to one of African greats rings true in pest management. The past few decades has seen the rise and spread of thrips in greenhouse farming, hitherto a minor pest, to become the most destructive insect pests of the greenhouses. Thrips hits growers where it hurts most!

Damage

Thrips nymphal and adult stages feed by piercing plant cells with their mouthparts and sucking out the cellular contents.

The damage to plant cells can result in deformation of flowers, leaves, and shoots. There is often silvery streaking and flecking on expanded leaves. Thrips often deposit tiny greenish-black faecal specks on leaves when they feed. Crops with high levels of Nitrogen are attacked more due to abundance of amino acids and proteins; female's productivity is also enhanced.

Besides direct feeding damage, the western flower thrips has the ability to cause indirect damage by transmitting the tospoviruses: impatiens necrotic spot virus (INSV) and tomato spotted wilt virus (TMSV) to a wide variety of greenhouse plants. Both direct and indirect damage may result in huge economic losses to greenhouse producers.

A part from the cryptic (hidden) habitats (unopened terminal and flower buds) highlighted above, other reasons that make thrips difficult to manage in greenhouses include their broad host range, high reproductive capacity, rapid life cycle (egg to adult), small size (2mm long), and resistance to insecticides. As such, the only way to effectively deal with thrips in greenhouse production systems is by taking a holistic (integrated) approach by implementing a variety of strategies.

Start clean

Making sure the young plants are clean is an important part of keeping a crop thrips-free. Transplants should be inspected for thrips before being placed in a greenhouse. Granted, this may be too labour intensive and time consuming especially when large quantities of plant material are involved but sticky card traps placed among the new plants for a day or two will quickly indicate the presence of thrips.

Exclusion

Staying clean would involve excluding thrips from the greenhouse as well as

eliminating sources of thrips infestation.

Where feasible, covering the openings to greenhouses is a very effective delivering a reduction of up to 70% in pest problems. Screening to exclude thrips must be very fine. Such screening, known as microscreen, has a maximum hole size of 192µm (0.037mm²). This, however significantly reduces air flow when placed over vents, and growers must modify ventilation systems to compensate for this.

Weeds and plant debris

Weed control is essential for a successful thrips control program. Certain weeds, particularly those in the Composite and Solanaceae families, and those with yellow flowers, attract thrips adults serving as refuge both for thrips and tospoviruses. As such weeds must be removed from both inside and around the greenhouse. It is also essential to immediately remove plant debris and bloomers from the greenhouse or placed into containers with tight-sealing lids, and not in the open as is common practice in most farms. Thrips adults will abandon desiccating plant material for the main crop.

Mass trapping

Mass trapping through the use of yellow or blue sticky traps placed just above the crop canopy is another method that has been shown to be effective in reducing population of flying insects (pests and beneficial). Research has shown that blue sticky traps catch more thrips than yellow ones, and in the same vein, stop the wearing of blue or yellow clothing in the greenhouse!

A recent development in the area of mass trapping is the use of sex aggregation pheromone lures that increase the number of thrips adults captured on sticky traps by attracting thrips out of their hiding with the added advantage of increasing their exposure to insecticide spray applications.

Other cultural and/or physical management

strategies that may be implemented include overhead irrigation/showering/misting, which has shown to decrease thrips populations by creating an unfavourable environment for thrips; placing a barrier (e.g. polythene) underneath plants on beds thus preventing thrips from entering the soil to pupate; and use of trap or lure crops, which are plants that are more preferred by thrips thereby attracting thrips away from the main crop. Such plants may then be spayed with an insecticide, removed from the greenhouse, or inoculated with biocontrol agents. Marigold (*Tagetes* spp) has been shown to be very attractive to thrips.

Monitoring

Monitoring is important for early detection of a thrips infestation; determining the numbers of thrips present in the greenhouse; detecting seasonal trends in thrips population over the year; and in assessing the effectiveness of management strategies implemented. Yellow or blue sticky cards are the easiest way to monitor for thrips. Gently tapping the terminal buds and flowers onto a white piece of paper and using a 10x magnifying lens to examine the insects that fall out is an easy way to check for thrips. Be sure to record population levels.

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Monitoring using blue sticky cards

Crop Protection

From page 21

Biological control

Biological control of thrips relies on the use of natural enemies including predatory mites and pirate bugs, entomopathogenic (or insect-killing) fungi, and entomopathogenic nematodes.

Predatory mites

The predatory phytoseiid mites, *Amblyseius cucumeris*, *Iphiseius degenerans*, and *A. swirskii*, are well suited for immature thrips control on greenhouse crops. Like thrips, they prefer small niches where contact between predator and prey is maximized.

These predators feed on pollen when thrips populations are low and must be introduced before a thrips population has built up to damaging levels. The mites establish themselves on leaves, usually on the undersides, and are most effective in attacking 1st instar thrips nymph. They use their mouthparts to pierce the thrips and suck out the cellular fluids.

The predatory mite *Amblyseius cucumeris* (AMBLYTECH C®) regulates thrips populations by feeding on the 1st and 2nd instar nymphs. It should be applied on tender shoots and applied frequently based on pest pressure.

Another predatory mite, *Hypoaspis miles* resides either in the soil or growing medium feeding on the pupal stage and should be applied on moist soil/medium.

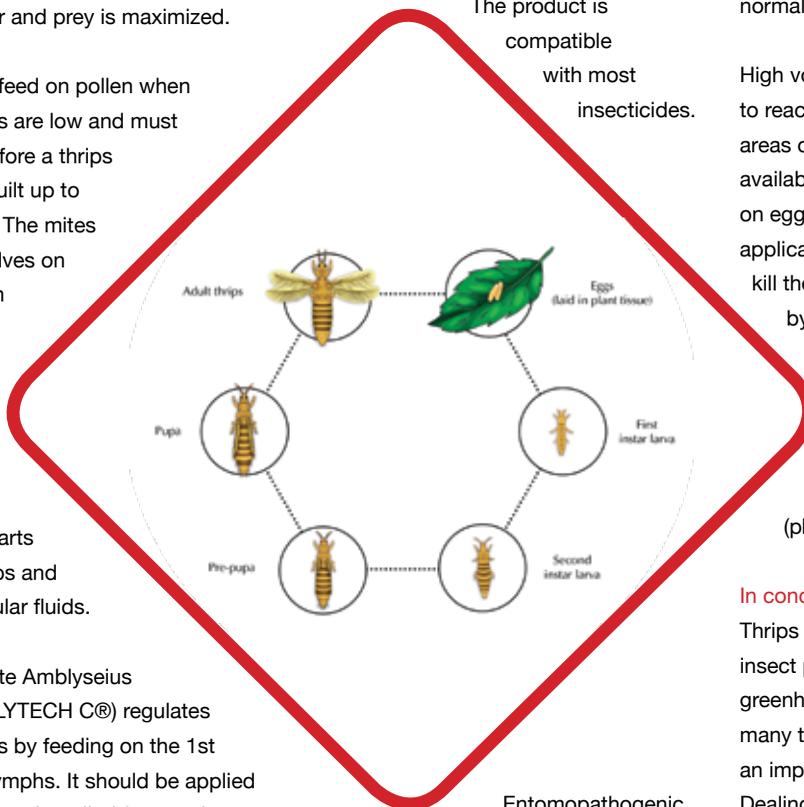
The predaceous mites will establish themselves on a crop, mate and reproduce in the greenhouse. These mites are susceptible to many insecticide sprays. Contact your supplier for specific

information on compatible pesticides and favourable environmental conditions.

Pathogens

Several pathogens have been investigated for control of thrips. The entomopathogenic fungus *Beauveria bassiana* (BEAUVITECH®) has been shown to be very effective in managing thrips populations in cutflowers where relative humidity is high. The fungus is capable of infecting both adult and juvenile thrips. Frequent usage will ensure the fungus is present on most crop foliage affecting juvenile and adult thrips. After application allow 24 hours before spraying a fungicide.

The product is compatible with most insecticides.



Entomopathogenic nematode *Steinernema*

feltiae (NEMATECH S®) is effective in infecting the soil-dwelling prepupal and pupal stages. The nematode also kills sciarid flies larvae in the soil.

The key to implementing a successful biocontrol programme is to release biocontrol agents early enough in the cropping cycle. It is important to note that natural enemies will not regulate an already established or existing high thrips

population because it takes time from release before natural enemies will lower thrips populations below damaging levels. Moreover, natural enemies will not eradicate (neither will insecticides) thrips.

Chemical control

Chemical insecticides play an integral role in thrips management programs, more so because the tolerance of thrips damage on greenhouse-grown ornamental crops is very low. Insecticides with contact or translaminar activity are generally used to control thrips, because systemic insecticides typically do not move into flower parts (petals and sepals) where thrips normally feed.

High volume sprays are typically required to reach thrips that are located in hidden areas of plants such as flower buds. Most available insecticides have no activity on eggs and pupae. Repeat frequent applications are therefore warranted to kill the life stages that were not affected by previous application. However, frequent applications may lead to the development of insecticide resistance, another elephant in the room of thrips management, and possible plant injury (phytotoxicity).

In conclusion...

Thrips has been, and still is, a difficult insect pest to control or regulate in greenhouse production systems leading many to believe that we have reached an impasse regarding its management. Dealing with thrips, therefore, requires a holistic approach integrating the methods detailed above. Key in this approach is knowledge about the biology of the pest, and indeed all other relevant pests, the crop (s), the cropping systems, pest management options etc. Dudutech's range of sustainable pest management solutions are backed up by training courses covering these very topics. Knowledge, we believe is the best weapon against pests!

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IFTF 2019

As the Expo Haarlemmermeer closed its doors in Vijfhuizen for the tenth edition of the international floriculture trade exhibition (IFTF). The trade fair had an excellent start and was again characterized by its very international character.

There was an optimistic atmosphere and the organization was satisfied. In terms of visitor numbers, no figures have been published yet, but given the completely full parking area during the first 2 days -This was also a record - higher visitor numbers ever experienced.

Optimism

During the three days of the fair there was an optimistic atmosphere, which is not entirely self-evident when looking at the current situation in the market, which is under pressure in many areas. Rose growers, in particular, have had a challenging year with an abundance of roses on the market and in some countries even political unrest that has made exports more difficult.

Trends

In total, almost 300 companies showed their products and services. What were the trends this year? The difficult period that rose growers are going through can be seen on the exhibition floor, but in a positive sense. They don't leave their heads hanging and try to think in an innovative and solution-oriented way. "There is an abundance of roses on the market and the cost of making bouquets in Europe and the UK is rising. So what can we do? Test and grow more crops and then pack them on the farms." In Kenya and Ethiopia, for example, the prices for making bouquets are much lower and therefore the demand for this option is high. And this trend can be clearly seen at the fair. Many Kenyan growers now also offer bouquets and are also testing the cultivation of different crops.

In addition, more and more growers are producing the 'garden rose' type of roses. The demand for this type of rose in Europe has increased enormously in recent years, and many are trying to grab a helping hand.





And don't forget, of course, the tinted flowers. For a number of years, we have been seeing this trend develop. Many growers now have a method of tinting their flowers, by spraying, dipping or absorbing they give their flowers different colours. In fact, tinting has become such a trend that it has become an additional focus of attention in breeding: How is the absorption of colour?



We also see more and more preserved flowers. This trend also started a few years ago and is now being picked up by more and more growers. Just like the tinting of flowers, the grower can enrich their assortment, and with this technique one can even appeal to another segment. Another advantage of preserved roses is that the grower does not have to deal with a perishable product - they can therefore keep a stock.

In the field of packaging, too, the issue of sustainability has been highlighted from all angles. Every effort is made to make the products as environmentally friendly as possible. Almost everything that is introduced is biodegradable, recycled or recyclable.

Future

All these developments make it difficult to predict how the sector will develop in the future, when looking at overall economic growth. However, looking at the sector as a whole and how everyone is able to adapt and innovate over the years, this gives good hope for the future.



“Global economic growth has slowed down since last year and this also has consequences for the flower sector. However, it is a normal phase in the upward and downward economic trend, which takes place every 7 to 9 years and is no different this time. It is difficult to predict how the economy will develop. In the past, however, the flower sector has proven time and again to be strong with enormous adaptability. It is therefore without doubt that this time again it will withstand any difficulty and continue to grow as always,” said Dick van Raamsdonk, of HPP Exhibitions, the organisation of the IFTF in one of its latest press releases.



“Rose growers, in particular, have had a challenging year with an abundance of roses on the market and in some countries even political unrest that has made exports more difficult.”



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Chrysal Rose Dip; beautiful roses and low wastage. Every grower wants to ensure beautiful flowers and low wastage. However, according to a study by Innovative Fresh, the amount of waste caused by Botrytis in supermarkets is on average 12%. Waste also occurs at the farm, during transport and at the final customer. The total cost of Botrytis damage amounts to millions of Euro's.

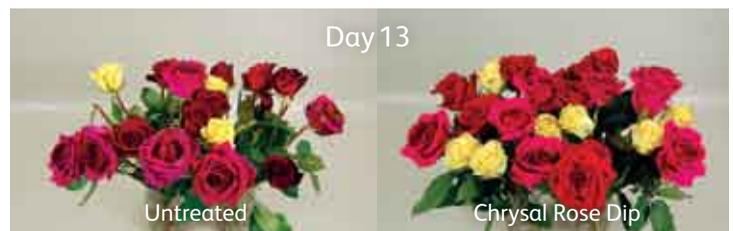
What is Botrytis?

Botrytis cinerea (grey mould) is a fungus which causes a loss of quality in flowers like Rosa, Chrysanthemum, Gerbera and Lisianthus. The place of origin, season, hygiene during processing and storage, weather conditions and climate control play an important role in the appearance and development of Botrytis. The fungus thrives on both living and dead plant materials. The infection starts when miniscule little mould spores, spread through the air. Starting as a little white speck ('pock') on the flower petals, it spreads right to the bottom of the flower. It gradually changes its colour to brown and finally all the petals fall off. Unfortunately Botrytis is an irreversible condition. Whilst infected flower petals are often removed by hand, there can be no guarantees that the fungal infection has not already damaged the rest of the petals. Throwing the flower away is the only remedy to prevent further infection.

Keeping your flowers Botrytis free with Chrysal

Chrysal now has the perfect solution to this problem and is introducing a new unique concept, Chrysal Rose Dip. Rose Dip is extremely effective against Botrytis and

helps growers to keep their beautiful roses, fresher longer, full of colour and free of Botrytis. Chrysal offers a unique service in which the entire process of dipping the flowers locally at the grower after bunching is monitored by a Chrysal specialist. So the best results are guaranteed and the grower does not need to worry about the correct application and dosing.



Chrysal Rose Dip is the only registered anti-Botrytis product, making it safe to use and up to 95% effective against Botrytis.

Rose Dip is extremely effective at controlling Botrytis in the entire flower chain, making long transport possible, by reducing their vulnerability during the challenges of transportation. The application of Chrysal Rose Dip also enhances the colours, slows down the opening of the flowers and thus increase vase life. Growers can save costs while improving their quality. **It's an all-round winner; happy grower, happy retailer, happy customer and happy roses!**



Now is the Time To Test Your Water

Irrigation in greenhouses can be a major challenge for some managers because water supply and water quality can considerably affect the success of the crop. However, regular water analysis is not always a common practice in many greenhouses.

Considering that water may be coming from many sources throughout the year, there can be variability in quality. That's why it is important to look in a water analysis.

The water provided by rivers, dams and boreholes can have variable chemistry throughout the year. Why is this important? Water quality can impact a growing medium's pH because of high or low water alkalinity.

Therefore, a periodic water sampling and analysis program will keep tabs on the minerals or nutrients present in the water and which can affect a growing medium's pH and fertilizer availability for plants.

What's most important to look for in a water analysis?

Water Alkalinity and pH

Water contains bicarbonates and carbonates, measured as the alkalinity of water, which will affect the pH of the growing medium. Bicarbonates and carbonates are bonded with calcium, magnesium, sodium and/or other ions dissolved in the irrigation water. Alkalinity is expressed in ppm (parts per million) of calcium carbonate (CaCO_3) and impacts a growing medium's pH over time.

The pH of the water source is irrelevant and has no impact on a growing medium's pH over time. However, pH is important to monitor since it will affect the solubility of the fertilizers and other chemicals applied.

When water alkalinity is high, the growing medium will receive a lot of carbonates and bicarbonates, much like adding limestone, which will cause the growing medium's pH to rise. If no corrective actions are taken to reduce the alkalinity, the growing medium's pH will rise. This can lead to problems in nutrient availability, particularly iron and manganese, which are less soluble in a growing medium pH greater than 6. Plants prone to iron deficiency will show yellowing on the newly formed leaves.

Low water alkalinity can be a problem as well and needs to be monitored regularly. As a corrective measure, some potential basic

WHEN WATER ALKALINITY IS HIGH, THE GROWING MEDIUM WILL RECEIVE A LOT OF CARBONATES AND BICARBONATES, MUCH LIKE ADDING LIMESTONE, WHICH WILL CAUSE THE GROWING MEDIUM'S PH TO RISE. IF NO CORRECTIVE ACTIONS ARE TAKEN TO REDUCE THE ALKALINITY, THE GROWING MEDIUM'S PH WILL RISE.

fertilizers do provide ingredients to raise pH, such as nitrate fertilizers. However, if the alkalinity is very low, these fertilizers may not be adequate to correct pH and the growing medium's pH will be too acidic. Flowable limestone is a good corrective measure if the growing medium's pH is a half unit below ideal range.

Minerals and Electrical Conductivity

The electrical conductivity (EC) tells you the total elemental content of the water and is useful in choosing the right fertilizers. EC and pH tests can be provided by commercial labs or can be measured on a regular basis with portable metres at your greenhouse. If you use portable equipment, remember to calibrate it before each use to be sure your measurements are accurate.

Recycling Water

Many greenhouses have environmental restrictions which oblige them to limit the amount of water they can use, so water is often collected and recycled. In this case, water testing must be done on a frequent basis and water sanitation becomes an issue because harmful microbes, such as Pythium, will persist if proper sanitizing methods are not used.

The water source(s) should be analyzed to determine water chemistry and look for algae, pesticide residue and plant or human pathogens. Most recycling systems have filters that remove large particles.

Sanitation equipment that uses UV rays, copper ionization or ozone can then be used to control pathogens.

How to understand the water analysis results and what to look for?

See below a typical water analysis from a greenhouse. As you can see, not all laboratory results supply information regarding the nutrient levels or alkalinity that need corrective measures.

Helpful guidelines:

- EC > 0.8 mmhos/cm
- Alkalinity is high when it's over 150 ppm (CaCO₃). To correct this, either use potentially acidic fertilizers or inject acid into the water to reduce alkalinity to a desirable range. Alkalinity below 40 ppm (CaCO₃) is low, therefore use fertilizers with no or low ammoniacal nitrogen. Another option is to have your growing media manufacturer increase the buffering capacity with limestone.
- Calcium > 40 ppm. If not, calcium will be deficient. To correct this, use fertilizers with Calcium if water has a low alkalinity.
- Magnesium > 20 ppm. If not, use Epsom salts or fertilizers with magnesium.
- Sulfate > 75 ppm
- Boron < 0.5 ppm
- Chloride < 50 ppm
- Sodium < 50 ppm

Flower Logistics Africa 2019 Focuses On Visibility Of Flower Industry Through Digital Transformation



The fourth edition of Flower Logistics Africa had a full house representing a cross-section of the entire value chain of flower trade. Revolving around the core theme of “Making Flower Trade Sustainable: Economically, Environmentally and Digitally”, the event was held at the Radisson Blu Hotel in Nairobi and attracted participation from Africa and outside.

The participants of the day-long conference deliberated on the typical challenges and changes faced in the floriculture and the industry as a whole, which is the fastest growing sub-sector among Kenyan exports, with annual growth of more than 7 percent. The discussions delved into flower trade sustainable practices in the changing economy, Kenya’s preparedness for big exports & new markets, and packaging innovations in flower transport.

In July 2019, African leaders from 54 countries signed the African Continental Free Trade Agreement (AfCFTA), the world’s largest free trade area by the

number of countries. While speaking on the impact of the implementation of AfCFTA on African flower trade, Clement Tulezi, the CEO of Kenya Flower Council (KFC), mentioned that for a long time, Kenya has over-relied on the European market.

“I believe that we can diversify into other markets and become competitive even if we have other people who are present in those markets. We believe in the quality of our produce, and with better promotion and entry into those markets, we are able to make headways,” he said.

Kenya and Africa is definitely ready for the big export. However, all stakeholders in the flower industry must maintain the products at low temperatures to enhance their shelf-life & maintain integrity in ensuring consumers receive fresh products” - Isaac Macharia.

While addressing the closure of some flower farms in the country in the past



industry at large are facing include the lack of quality infrastructure, lack of open skies in the continent, and transportation of goods across borders for final deliveries.

The event which was organised by Logistics Update Africa, was sponsored by Kenya Airways Cargo, Holland Flower Alliance, Saudia Cargo and many more. The conference was also supported by industry associations such as KFC, Kenya Plant Health Inspectorate Service (KEPHIS), Kenya International Freight and Warehousing Association (KIFWA), and the International Air Transport Association (IATA).

few weeks, Clement observed that the cost of doing business in Kenya is very high; interest rates, freight costs, taxes, availability of water, etc. “We have to be aware of these complexities and realities that are part of our business now, and be able to press the right buttons so that we have the right responses from the national government, central government, and all the players in between.”

While discussing digital transformations and how data can improve transport and logistics for Africa, Jacob Bwana, cargo commercial manager at Kenya Airports Authority explored the different stakeholders present to digitalise the processes along the value chain. “This is what enhances data sharing and visibility of the processes, and this is what creates reliability and gives value proposition for the air freight business,” he added.

At the moment, some of the challenges that Kenya Airports Authority and the air freight



“The discussions delved into flower trade sustainable practices in the changing economy, Kenya’s preparedness for big exports & new markets, and packaging innovations in flower transport.”

Molo River Farm Wins **Spear of the Nation** Award



It has been an exciting and a learning experience for me. To start with, the farm is situated in a rehabilitated land; full of termite hills and gulleys. There is no other flower farm around so getting experienced labour was a problem. There was also no in- road to the farm.

Molo River Roses Ltd met the required threshold to emerge among the top by winning two exceptional awards. Spear of the nation award and excellence based award are the two accolades the company claimed.

When we moved in, the first thing we had to do is was to clear the bushes and

flatten some of the termite hills. We had to design an inroad and gravel it. Getting labour from within was a problem as the

locals would prefer to work for a half day in the neighbouring small scale farms than to work the whole day in the flower farm.

Getting outside labour was also a problem as the farm is in an isolated place and no housing around. We have since overcome these problems and the farm is now running smoothly.

All said and done, this has been my best job since joining the industry. It is a baby I have seen been conceived, born and now walking. We have had a number of challenges but every challenge has provided us with an opportunity to learn from.

I would like to see Molo River Roses being the preferred supplier of choice for quality flowers to major markets in the world. As a new farm, there are a number of things we need to do to achieve this vision. The list of priorities is long but top on it is the need to improve the technical skills of our staff through trainings. We are also working on setting up sustainable systems which can guarantee quality products throughout the year. Above all we are working on developing a good market for our products.

The AWard

Export promotion council recently organized Kenya Exporter of the Year Awards (KEYA) to give props to the

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best in the export sector. To achieve recognition, participating companies were tasked to meet world class status in different aspects of their businesses.

Leadership and corporate governance came top of the list in the assessment guidelines; this was to establish the positioning of participating companies for future growth and sustainability. Marketing and customer focus, financial and revenue generation practices and ICT adoption were among the determinants used for recognition.

Molo River Roses Ltd met the required threshold to emerge among the top by winning two exceptional

awards. Spear of the nation award and excellence based award are the two accolades the company claimed. It is noteworthy to say, the flower farm couldn't have achieved such a milestone were it not for a great deal of synergies created between the farm, their suppliers and the staff.

For more than two decades Export Promotion Council (EPC) has been committed to advocacy of exporters and producers of export goods and services. Establishment of KEYA provides a platform for exporters to gain recognition for unparalleled contributions they have been making to the country's economy not overlooking their role in promoting the brand Kenya in different foreign countries which

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KENYA EXPORTER OF THE YEAR 2019

CERTIFICATE OF RECOGNITION

Molo River Roses Ltd

Spear of The Nation Award (Outstanding Sector Commendation)

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import our flowers.

The Awards Ceremony was marked with pomp and color with His Excellency the Deputy President Hon. William Ruto presiding over the Ceremony accompanied by Cabinet Secretary Ministry of Trade, Industry and Cooperatives Hon. Peter Munya, Permanent Secretary State Department for Trade Dr. Chris Kiptoo, Permanent Secretary State Department

for Industry Betty Maina amongst other dignitaries.

The Kenya Exporter of the Year Awards (KEYA) is a scheme that seeks to recognize and encourage outstanding export performance by individual exporting enterprises. The excellence-based award is built on seven key determinants in the assessment tool that participating companies are evaluated on.

This include; leadership and corporate governance, marketing and customer focus, finance-revenue growth, GDP contribution and foreign exchange earnings, information communication technology an e-commerce adoption, product quality, processes and certification, human resource management, and sustainability.

Team

I have a very good team. I had a free

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EAPI Ltd. would like to take this opportunity to congratulate Molo River Roses on receiving the Spear of the Nation and Excellence Based Awards.

As a supplier to Molo River Roses, we are proud and honoured to be part of this great achievement. We strive to provide quality products and service to our clients to the best of our ability.

EAPI Ltd. has you covered when it comes to diverse packaging needs. We have a wide range of packages including but not limited to:

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- Regular Slotted Cartons
- Archive Boxes
- Removal Boxes
- Single Face Kraft Rolls (SFK)
- Single Face Kraft Pre-cuts (SFK)
- Self locking Boxes
- Die cut Trays
- Chick Boxes
- Tea & cement sacks

We design it, we create it better.





From page 36

hand to select the senior team whom I am working with in executing the board's decisions. We have a very support Managing Director giving us all the necessary support. The employees are very hard working and understanding. A new farm has its share of teething problems but our employees have been very supportive.

The team has also gelled well with my working policy: "hard on standards but soft on people". You have to set minimum standards in whatever you do and people will always give you what you accept. I also believe that people don't plan to make mistakes in a workplace but in the process of working, mistakes are bound to happen. Whenever a mistake occurs, I encourage our Managers to deal with the mistake, not the person.

Human Resources

The success of the farm can easily be attributed to the employees. I have borrowed heavily from John Maxwell's leadership books. I give the employees the "BEST" that is I, Believe in them, Encourage them, Share with them

and Trust them.

I also connect with them on all levels across the organization. As John Maxwell puts it, people don't care how much you know until they know how much you care, I do believe that if you care about them, they will follow you and give you the strongest support no matter how big the challenges and obstacles are. This has seen our success.

Technology

In addition to the state of the art greenhouses we have embraced the newest flower transportation system which ensures quality of flowers is supreme. The Greenspan Sky Transport System is used to transport flowers from the greenhouses to the pack house.

Since installation the company has saved on time, labour, maintenance costs while ensuring a higher quality. The crops do not shake hence ensuring fewer bruises and broken heads compared to when we were using trolleys and tractors.

The maintenance costs compared to the traditional system is also very low; we

only oil the wheels once a month and change the sheet cap if it is worn out. Additionally, the system does not emit any gases or cause any pollution making it environmentally friendly.

Conclusion

Molo River Farm Ltd will be expanding. In the near future, the company will expand its investment in hactereage, technology, human resource, choice of more value addition varieties and above all corporate social responsibility (CSR).

For Molo River Farm, fame can come in a moment, but greatness comes with longevity. They are for greatness. In fact, it was established for more than greatness, it was established for the glory of the flower industry, employees, community around them, the authority and consumers.

The Export Promotion Council (EPC) held the 1st inaugural Kenya Exporter of the Year Awards (KEYA) on 15th July 2019 at KICC aimed to recognize firms that have made significant contribution to the development of the economy through exemplary business performance.



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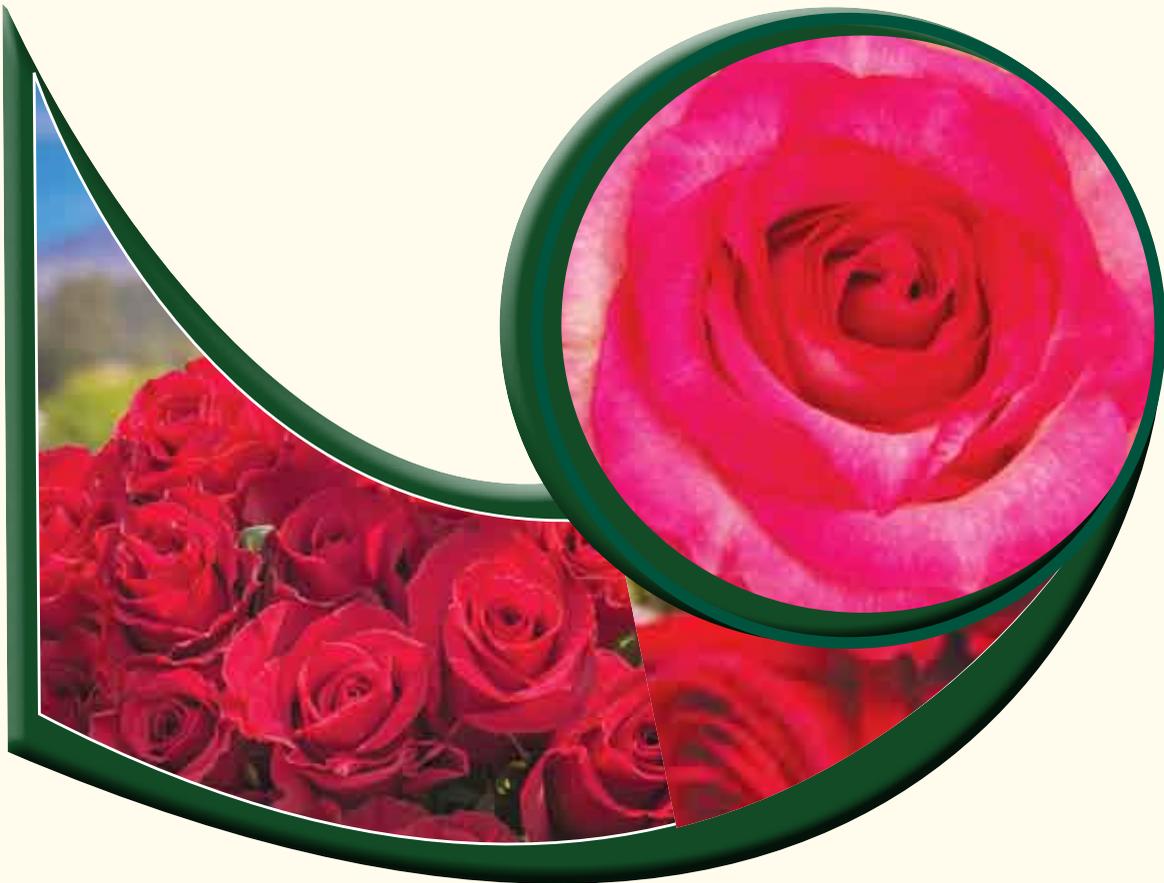


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Why Do People Buy Flowers And Plants: **Special Occasion Versus Own Use**



To understand the working of the ornamental industry it is crucial to understand why people buy flowers and plants.

An important distinction can be made between two main purchasing motives.

First, consumers buy flowers and plants for special occasions. In fact, most flowers are purchased as gifts (around 50-60%) for a birthday, Valentine's Day,

Mother's Day, Christmas or any of the other festive days. Another 20% is bought for special occasions like weddings and funerals. These figures vary greatly between countries. In general, the share of flower purchases as gifts is higher in less developed markets. The main products competing with flowers in the special occasion segment are chocolates, jewellery and wine, as these tend to be bought for the same purposes. If the price of flowers is

relatively too high, or if flowers are of poor quality, consumers tend to switch to these competing products.

Second, many consumers buy flowers and plants for own use, often with the intention of brightening up their home and creating a pleasant environment. The same purpose applies to companies buying flowers and plants to decorate and brighten up offices, lobbies or restaurants. In general,

consumption for personal use is higher in countries with higher income per capita.

In recent years, more emphasis has been placed on decorating the house interior. Nowadays, people spend more money on home decoration and increasingly purchase flowers and plants for own use. In the last few years, people are also paying more attention to their garden. The purchase of plants for own use has been stimulated by this trend. Even the Europeans with little or no space for gardening use their balconies and purchase outdoor plants.

It is important to recognise that consumer requirements differ strongly between these two segments. In case of the special occasion segment, consumers usually plan their purchase and look for a nice surprising present or a specific product like a wedding bouquet or funeral arrangement.

In the own use segment, purchases are often so-called impulse purchases. The consumer was not even planning to buy a bouquet or a plant. Consequently, convenience and price-setting is critical in this market segment. If the product is too expensive or it is too much work to find or arrange, the consumer will not buy.

This distinction between the special occasion and own use segment has resulted in a division that can be recognised on all levels of the supply chain: from consumption to retail, wholesale and production level. Florists, for instance, mostly target the special occasion segment. They are true product specialists offering a wide assortment of high quality products. Florists are able to make a handmade bouquet according to one's individual taste with a nice wrapping and a card for personal wishes. They can also make a tasteful funeral arrangement with the right flowers and a special ribbon.



On the other hand, supermarkets and other retail chains like Do-It-Yourself stores and garden centre chains tend to target the own use segment. Thanks to their sheer size, they are often able to offer flowers and plants against very competitive prices. These retail chains are not looking for a broad assortment. They just want to offer the right mix of products and colours against competitive prices.

Consumer vs. institutional market

Another method of segmentation is to distinguish between the consumer and business or institutional market. Companies and governments are key customers as they buy large quantities of flowers and plants for their offices, hotels and restaurants to dress. Governments (municipalities) use considerable volumes of trees, shrubs and plants for the decoration of the public

spaces like parks, street sides, etc. The share of the institutional market segment in the total floriculture market is estimated at around 20 percent and is rising.

Corporate social responsibility policies are becoming more important in governments and companies. Over the last few years, many governments and government institutions have adopted strict procurement policies, also for floricultural products. Dutch municipalities, for instance, have set the goal to purchase 75% sustainable products in 2010 and 100% in 2015. After the introduction of sustainable government procurement policies, also many private companies like banks and insurance companies followed suit. As a result, an increasing number of tree nurseries and garden plant growers have obtained the required certification.

Packaging Standards and Protocols

Already a trailblazer in global horticulture, Kenya has achieved tremendous export growth over the last two decades. Horticulture – with fresh-cut flowers holding first place in export volumes – has become one of the country’s biggest earners, providing many thousands of Kenyans with jobs and income. Kenya has become the leading producer of roses for the European market and a major supplier of other varieties. Exporting largely to the Netherlands, Europe’s principal point of entry for flowers (taking 67% of Kenya’s tonnage and over 55% of its export value), Kenyan players have joined forces with Dutch players in creating one of the industry’s most highly developed supply chains. With volumes steadily increasing and the horticultural product range widening, Kenya’s Jomo Kenyatta International Airport became the biggest cargo hub of Africa in 2011, overtaking even Johannesburg and Cairo.

Eight trouble spots, five improvement themes
There are eight

trouble spots in which minor and major problems are holding the sector back:

1. Cold chain management
2. Transport and logistics
3. Packaging
4. Information and communication
5. The relatively weak position of SME growers
6. Handler performance
7. The integration of the flower sector with mass-market retailers
8. Sector-wide teamwork

In order to maintain their competitive edge over competitors both near and far in the global flower industry, Kenya and the Netherlands can deal with these trouble spots by focusing on five improvement themes, the study suggests:

Cold chain and packaging standards and protocols

The absence of adequate

standards and protocols in the cold chain, notably affects the quality and vase life of flowers. Temperatures right down the supply chain vary substantially and are often far higher than necessary, both in Kenya and in the Netherlands. The absence of clear agreements regarding temperature, as well as timing and quality of handling services (service levels), also negatively impacts flower quality.

Another area in need of solid standards and protocols to improve quality and cost efficiency is packaging. Currently, the supply chain lacks standard procedures for ordering, storing and erecting boxes, while packaging requirements related to storage, cooling and transport, are often contradictory. Also, loading practices and shipments are often inefficient, with over- and under-packing resulting in volume inconsistencies, unnecessary expenses and damage to flowers.

Education on cold chain management and packaging

Cold chain management and packaging are also begging attention when it comes to education. Farm staff, transporters, handlers, airlines and importers alike



protocols Necessary

are not as aware as they should be of the basic

requirements in these areas, nor how to meet them. Retailers are another group in need of education on how to handle fresh-cut flowers, as their knowledge and experience with this product lag behind their increasingly dominant market position. Particularly at the retail level, product and packaging wastage figures are astonishingly high.

Synchronization of (electronic) information

A more effective exchange of (electronic) information throughout the supply chain will reduce time-to-market and handling expenses, increasing supply chain efficiency. Electronic systems, need to be developed and implemented on wider scale. Current flower shipments often lack uniform documentation and labelling, while some of the parties involved in clearing shipments are not available 24/7.

Supply chain innovation

Strategic, technological and structural innovations, as well as supply chain performance improvements, are vital if the Kenyan-Dutch supply chain wishes to move forward successfully. Sea transportation options need further investigation and packaging

innovations geared to direct sales

are conspicuous by their absence.

Sector involvement in the carbon footprint debate is crucial for realizing acceptable sustainability standards. The CO2 impact of specific industry activities needs further research. There is also a need for programmes aimed at improved use of natural resources, waste reduction and a better environmental performance.

Communication and knowledge sharing can also be improved by means of sector- and supply chain- specific websites, training programmes and other forms of direct collaboration between key stakeholders, including associations and government bodies in both countries.

Concrete and practical

The Kenyan-Dutch flower supply chain has a lot of room for improvement in big and small ways. A study carried earlier offered plenty of concrete and practical points of connection for every player in the chain eager to raise the standard and take the lead in the industry. Interest in the Platform Discussions so far has been encouraging. All but a few of the players in the chain seem eager to participate.

Discussing change and actually realizing it are obviously two different things, but we're confident that by tying in with existing initiatives both in Kenya and the Netherlands, we can make a real difference. It's up to the supply chain itself to make it happen.'





Service (KEPHIS) and extensive market research.

“For farmers, it’s imperative that they source their materials and seeds from reputable sources since it prevents spread of diseases and guarantees quality products for export,” said Patrice Ngenga, the technical, standards & compliance officer at the Fresh Produce Exporters Association of Kenya.

PLA 2019 discuss market accessibility for perishable exports, waste reduction

After the successful Flower Logistics Africa 2019, the third edition of Perishable Logistics Africa (PLA) was conducted at the Radisson Blu Hotel in Nairobi, bringing together key stakeholders in the perishables supply chain. Discussions on the theme ‘Together for Better Logistics: Collaboration Key to Enhancing Africa’s Perishable Export’ amplified the need for infrastructure development in order to broaden our perishables markets.

The need for collaboration between African nations and harmonising standards was identified as key to accessing markets. Speaking on the topic of sustainable practices for bringing down costs and increasing margins, Peter Musola, cargo

commercial manager at Kenya Airways noted that a lot of the perishable products being produced are homogenous, which leads to huge wastage.

According to Musola, Kenya Airways is reducing the intra-Africa freight costs as a way of enabling the trading market within Africa. “Kenya is well-positioned to achieve more, but we can take it a notch higher with more collaborations,” he added.

PLA also discussed exploring new markets, and looking beyond the traditional avenues. As the speakers observed, the two most critical aspects that can lead to success when exploring new markets are compliance from the Kenya Plant Health Inspectorate

As all sectors are embracing technology through various digital enablers such as blockchain technology, farmers and other stakeholders in the supply chain value are seeing the need to invest in the right technology in order to minimise errors as well as make accurate projections regarding their products. In an earlier address, Jacob Bwana, the cargo commercial manager at Kenya Airports Authority reiterated this by saying that, “We should embrace data sharing through e-commerce along the supply chain to enhance visibility. This will enable us to provide both soft and hard infrastructure to facilitate the export trade of goods, especially perishables at our airports.”

The event which was organised by Logistics Update Africa was sponsored by Kenya Airports Authority, Holland Flower Alliance, Saudia Cargo and many more. The conference was also supported by industry associations such as Kenya Flower Council (KFC), KEPHIS, Kenya International Freight and Warehousing Association (KIFWA), and International Air Transport Association (IATA).

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Ethiopia is Getting Back On its Feet

Rose is the most important crop (80% share) in Ethiopia, followed by carnation, hypericum, gypsophila and various summer flowers.

Ethiopia is a stable country, it has been and still is.” We recorded this quote in 2016, when we were speaking with a Dutch rose grower based in Ziway, a town located around 800 kilometers from Badir Dar, northwest of capital city Addis Ababa. Bahir Dar is the town where the first riots against nursery owners took place two years ago. The events at Esmeralda Farms were world news.

Since then, reports from the country haven't exactly given the impression that the situation has been stable. At one time, growers in Ziway couldn't harvest their flowers. Militant young people threatened and intimidated the thousands of workers and obstructed their access to the farms for a couple of days. Lost income for the growers. They had seen it coming.

Strike

The unrest was mostly caused by external political and economic factors. Ziway, for example, has quadrupled in size since the first greenhouses were built there in 2005. The sector generated employment and economic growth. It also brought together more people in one place, people from different Ethiopian tribes. House prices went up and differences in prosperity among the population increased.

Until 2018, most of the power was in the hands of one of the smaller population groups,

the Tigray. They were the ones pulling the strings in the Ethiopian People's Revolutionary Democratic Front (EPRDF), the leading political party in Ethiopia. Larger population groups, like the Oromo and Amhara, didn't get much of a say for many years, even if they were represented in the same party.

Calm restored

That political imbalance between different tribes led to increasingly dissatisfaction and riots from 2016. Horticulture was also seen as a success story of the federal government and also 'used' to put pressure on them. Eventually, prime minister Hailemariam Desalegn resigned in February 2018, after a major regional strike. The political and business domination of the Tigray just had to be over. When the new prime minister, Abiy Ahmed, from the Oromo tribe, was installed in April 2018, it seemed like calm had been restored in the country. He introduced reforms, and he's trying to spread power and money more evenly between the various population groups. Nonetheless, new problems arose in the country. Problems that are mainly due to the low level of control on local politics and a remainder of the pressure that was built up in the preceding phase. That still needs years to wear out. And the Oromo and Amhara people go about things differently.

Populist action

The strikes didn't just affect the farms, but companies from other sectors too, including

Ethiopian businesses. Populist action intended to put pressure on the federal government, is how various Dutch growers and organisations that were affected, describe it. A few clear hotspots can be identified. Ethiopia definitely isn't a country in a civil war, is what we reported in 2016, and that opinion still prevails.

The federal and regional authorities see the value of foreign investments, even under new prime minister Abiy Ahmed. Foreign currency is very welcome, just like employment and economic growth. It's difficult to find a job in Ethiopia and 70% of the unemployed population is under 30. Ethiopia is a stable country, it has been and still is.

Good relationship

The past period has taught that a good relationship with tribal chiefs and local parties is very important. In fact, some of the rioting groups were calmed down at the gates of a farm with the help of local leaders. Dutch growers in Ethiopia use this experience in their day-to-day business operations. They used to negotiate mostly with the federal government, but these days, there's more interaction with regional governments and local parties.

They also play a role in the redistribution of money and power. As changes are happening relatively fast, it's important to have connections among stakeholders close to home. So you know what's going on and how that affects you, what your role in it is. Those are the kind of questions that are important for entrepreneurs.

New project

Dutch growers in Ethiopia don't feel unsafe. Protection and support from regional and federal governments are still in place. They could feel the tension at times of unrest, of course. And the high tax assessments that some entrepreneurs were suddenly presented with, weren't so pleasant. What's hopeful though, is that the political situation seems quite stable now. It will probably take another year before all the problems are really solved.



Many growers who were planning expansions have put those plans on hold. But some new initiatives are going ahead, like the Dutch alstroemeria growers who are, or will be, renting land from companies already active in Ethiopia.

One new horticultural area still to be developed is located just outside Bahir Dar. There's 455 hectares available for growers. The area is being developed by the Ethiopian government, in collaboration with the Netherlands Enterprise Agency (RVO). Enough growers have signed up for the project and communications with the local population have begun, to avoid any tension. The reputation of the flower production sector in Ethiopia must be improved. Growers are aware of this, even if they didn't come to the country to interfere with politics.

Second largest flower exporting country in Africa

The flower sector in Ethiopia started around the turn of the century. There are now around 90 flower companies spread across roughly

||

Some people call it a silent coup. Others feel that the word silent doesn't sound quite right, considering the unrest that Ethiopia's seen on a regular basis since 2016. Fact is that the political developments in the country have been having an impact on the economy and on growers too. But most of them say there's still a future for them there.

1,500 ha. Rose is the most important crop (80% share), followed by carnation, hypericum, gypsophila and various summer flowers. No

more than 1% of the production is for the domestic market.

Ethiopia has become the second largest flower exporting country in Africa after Kenya. About 90% of their produce is distributed to the European Union, most of it through the Royal FloraHolland auction. According to the auction's figures, Ethiopia's rose exports amounted to around €150 million in 2015, and the majority (88%) went to the Netherlands.

Several of the growers that started in 2004 have gone bankrupt. Many of them were attracted by the favourable conditions that the government was offering (tax benefits, low interest etc.), combined with the promised lucrative returns of rose farming. Companies that stayed on are well acquainted with the cultivation and entrepreneurship in Africa.

IPM ESSEN 2020 Presents Top-Class Supporting Program

Competitions, Live Shows, Specialist Lectures and Seminars

From January 28 to 31, 2020, the international horticultural sector will meet up at IPM ESSEN. In addition to an extensive range available from the exhibitors, the world's leading fair for horticulture will once more offer an exclusive and informative supporting program. No matter whether competitions such as the Show Your Colors Award, the Future Congress of Horticultors and Landscapers, trendy live shows in the FDF World or the Innovation Showcase - trade visitors will learn a lot worth knowing in order to make themselves and their businesses fit for the future and will be able to establish new contacts at the same time.

The best of the best will compete against each other at IPM ESSEN: The Innovation Showcase will choose innovative plant novelties in the following categories: Bedding and Balcony Plants, Spring-Flowering Plants, Flowering House Plants, Green House Plants, Woody Plants, Perennial Plants and Tub Plants. All the plant exhibitors at IPM ESSEN will be called upon to submit their creations. The winners will be announced during the official opening ceremony on the first day of the fair. All the submissions will be exhibited in Hall 1A throughout the period of the fair.

Attention-grabbing storytelling will be subject of the Show Your Colors Award which will be jointly staged by BIZZ Communications and Messe Essen. Marks of distinction will go to perennial plants and woody plants with the most ingenious marketing ideas. The prizes will be handed over at 3.00 p.m. on January 30.



In 2020, the floristry competitions will bear the motto "I Live This Way - It Doesn't Get Greener!" Florists and trainees will be called upon to give free rein to their imaginations and, with their workpieces, to express their love for diverse and flourishing nature. The coveted IPM Trade Fair Cup will be presented at 12.00 noon on January 31.

The International Association of Horticultural Producers (AIPH) will once more distinguish the world's best plant breeders with the "Grower of the Year Awards". The festive gala will take place in the evening of the first day of the fair.

Focus on Nurseries

The nurseries will be assigned a special role at the next edition of the world's leading fair. The current climate discussion is confronting municipalities with the task of creating green areas in cities using plants which can withstand even extreme weather conditions. For this purpose, the Federation of German Nurseries will offer a seminar on the subject of "Organizing Sustainability in the Municipality - Reports from Free Space Planning" on January 29 within the framework of the cross-border project entitled "Green Cities for a Sustainable Europe". The European Nurserystock Association (ENA) which, as is tradition,



will also meet up at the fair at 5.30 p.m. on January 29 will speak about where the path is heading for the community of states. Furthermore, the foundation called "The Green City" is planning special info tours about climate trees.

Prospects for Horticulture and Landscaping

The North Rhine-Westphalia Association for Horticulture, Landscaping and Sports Field Construction will once more stage its Future Congress during IPM ESSEN, i.e. on the Thursday of the fair. The subject will be: "Paths into the Future - Organizing the Company Succession Successfully". The speakers will include Univ. Prof. Dr. Heiko Kleve, sociologist and social educationalist as well as adviser and coach for entrepreneurial families, Prof. Dr. Peter May, lawyer, honorary professor and management consultant, as well as Lencke Steiner, Member of the Federal Executive Committee of the FDP political party and a former jury member in German version of the TV show called "Dragon's Den".

Speakers' Corner in the IPM Discovery Center

The IPM Discovery Center will concentrate on the marketing of green products and services. There, participating companies will be presented as "heroes" in their sector. In 2020, lectures will again be delivered in the Speakers' Corner, too. The Tuesday of the fair will be totally characterized by the florists: In cooperation with the trade journals gestalten & verkaufen ("design & sell") and Bloom's as well as the Trade Association of German Florists, the participants will



Attention-grabbing storytelling will be subject of the Show Your Colors Award which will be jointly staged by BIZZ Communications and Messe Essen. Marks of distinction will go to perennial plants and woody plants with the most ingenious marketing ideas.

discuss the latest trends and new technologies. Moreover, creative ideas will await the visitors in workshops. On the Wednesday, everything will then revolve around POS concepts for garden centers. On the Thursday and the Friday, the IPM Discovery Center will take up the subject of fruit and vegetables. The Haymarket Media publishing house will be the partner here.

International Top Florists Demonstrate Their Ability

The Trade Association of German Florists will offer a strong flowery line-up to its guests in the FDF World, in the Green City in Hall 1A. The international Floristry Show with artists from the Floral Fundamentals Family will stand for extraordinary and innovative flower designs. On the stage, it will be possible to see Laura Leong from the UK, Dominique Herold from Germany, Hans Zijlstra from the Netherlands, Timo Bolte from Austria and Stefan van Berlo from Belgium. The performers on the FLOOS floristry teaching platform

will show how the latest trends can be translated into contemporary floral design. On this occasion, the following international greats in the floristry world will be expected in Essen: Alex Segura (Spain), Johan Obendrauf (Austria), Nicu Bocancea (Romania), Britta Ohlrogge (Germany), Jürgen Herold (Germany), Max Hurtaud (France), Roman Steinhauer (Russia) and Pirjo Koppi (Finland). At IPM ESSEN 2020, the Flower Battles will go into the third round with the motto "Flowers, Fun & Action". Within just a few minutes, the participants will, live before the eyes of the spectators, have to select their materials from a material pool and create spontaneous flowery arrangements from them. The public will decide which candidates will progress until the best ones face each other in the final.

Horticultural Info Center

The green associations will present themselves in the Horticultural Info Center in the Green City in Hall 1A and will make themselves available to their members for consultation discussions. In 2020, the teaching show entitled "Boundaries Are Getting Blurred - A Sector in a State of Change" will refer to the prevailing upheaval in horticulture in relation to the training, the type of cultivation as well as the subdivision of horticultural products.

The Green Career Begins at IPM ESSEN At 10.00 a.m. on January 29, the green associations will invite pupils in Classes 7 to 10 to IPM ESSEN in order to obtain information about green occupations such as gardeners and florists and to gather initial practical experiences. Furthermore, the booth of the young gardeners will be a competent contact point for job starters. In cooperation with the German Garden Industry Association (IVG), the Ulmer publishing house will offer the Occupation + Future Forum on January 30. Any interested people will be able to find current job vacancies and requests on the "Green Careers Wall" in Hall 1A.



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA- Flowers-Rumuruti	Roses	Rumuruti	Charles Njuki	0724 391 288	charles.njuki@aaagrowers.co.ke
AAA- Flowers -Chui Farm	Roses	Timau	Ravi Kumar	0759 500403	ravikumar@aaagrowers.co.ke
Farm-Sunripe		Naivasha	Antony	0711827785	naivasha@sunripe.co.ke
Across Agriculture Ltd	Herbs	-	Emily Chepkemoi	0729080186	chep28@gmail.com
Africalla Kenya Ltd	Cuttings	Eldoret	Meindert	-	meindert@africalla.com
Africa Blooms	Roses	Salagaa	Ramnath Sarbande	0780314387	ramnath.sarbande@xflora.net
Afriscan Kenya Ltd	Hypericum	Naivasha	Charles Mwangi	-	-
Aquila Development Co	Roses	Naivasha	Abhay Marathe	0729776656	gm@aquilaflowers.com
Balaji Flowers	Roses	Olkalou	Ra0 Venkatesh	0726337266	-
Baraka Farm	Roses	Ngorika	Lucy Yinda	-	lucy@barakaroses.com
Batian Flowers	Roses	Nanyuki	Dirk Looj	0720102237	dirk@batianflowers.com
Beautyline	Flowers	Naivasha	Peter Gathiaka	0721392559	peter@beautyli.com
Big Flowers	Roses	Timau	Simon Blinco	0723234927	simon@maufloa.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
Black Petals	Roses	Limuru	Nirzar Jundre	0722848560	nj@blackpetals.co.ke
Bliss Flora Ltd	Roses	Njoro	Appachu Sachin	0789101060	appachu7@yahoo.com
Blue Sky	Gypsophilla	Naivasha	Patel Sushant	0725622333	info@blueskykenya.com
Bloom Valley		Salgaa	Ramnath Sarbande	0780314387	ramnath.sarbande@xflora.net
Blooming Dale Roses Kenya Ltd	Roses	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms	Roses	Nakuru	Shivaji Wagh	0720895911	shivaniket@yahoo.com
Carzan (K) Ltd KS	Summer flowers	Salgaa	Stanley Rotich	0721931710	stanley@carzankenya.com
Carzan (K) Ltd ST	Hypericum, solidago		Adung'o	0716019094	adung'o@carzankenya.com
Carzan - Molo	Carnations	Molo	Charles Chelule	0728784081	charles.chelule@carzankenya.com
Charm Flowers	Flowers	Athiriver	Ashok Patel	020 352583	ashki@charnflowers.com
Chestnut	Flowers	Mt. Kenya	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	kipkirui89@gmail.com
Colour crops Naivasha	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Credible Blooms	Flowers	Rumuruti	Eliud Njenga	0722382859	eliud@pigeonblooms.com
Credible Blooms	Flowers	Ngong	Eliud Njenga	0722382859	eliud@pigeonblooms.com
Dale Flora	Roses	Mogotio	Ajay Sutar	0711102266	ajay.sutar24@gmail.com
Desire Flowers	Flowers	Isinya	Rajat Chaohan	0724264653	rajatchaohan@hotmail.com
De ruiters	Breeder Roses	Naivasha	Fred Okinda	0722579204	Fred.okinda@deruiter.com
Double Dutch	Cuttings	-	Pharis Wainaina	0728207661	
Dummen Orange	Flowers Breeders	Naivasha	Steve Outram	0733 609863	s.outram@dummenorange.com
Eco Flora	Roses	Salgaa	Kimani	0733605219	production@fontana.co.ke
Elbur flora- kimman	Roses	Nakuru	Daniel Moge	0721734104	kimmanexp@gmail.com
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Equinox	Flowers	Nanyuki	Harry Kruger	0707266956	harry@equinoxflowers.com
Everest Flowers Ltd	Flowers	Mt. Kenya	-	-	-
Everflora Ltd.	Flowers	Thika	Bipin Patel	0735873798	everflora@dmbgroup.com
Evergreen Crops		Nairobi	Arun Singh	0721941009	arun@evergreencrops.com
Exotic Peninah	Roses/ Carnations	Athiriver	Dan	0734626942	dan@exoticfields.com
Fairy Flowers	Flowers	Limuru	Sylvester	0753444237	sylvesterkahoro@yahoo.com
Fides Kenya Ltd	Cuttings	Embu	Bernard Marindany	0726 366 752	B.Marindany@DummenOrange.com
Finlays -Tarakwet	Flowers	Kericho	Lelon Chepkwony		
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	Japhet Langat	0722 863527	japhet.Langat@finlays.co.ke
Fontana Ltd - Akina farm	Roses	Njoro	Mahindra Patil	0798254199	--
Fontana Ltd - Ayana Farm	Roses	Mau Narok	Aiyappa		aiyapa@fontana.co.ke
Flamingo Holdings Farm	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@flamingo.net
Flamingo Holdings-Kingfisher Farm	Flowers	Naivasha	Mr. Isaac Karanja	0720473502	kingfishercarnations@flamingo.net
Flamingo Holdings- Kingfisher Farm	Flowers	Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@flamingo.net
Flamingo Holdings-Siraji Farm	Carnations, Roses	Nanyuki	Peris Muturi	-	-
Flamingo Flora	Roses	Njoro	Sam Nyoro	0721993857	s.ivor@flamingoflora.co.ke
Flora ola	Roses	Solai-Nakuru	Lucas Choi	0721832710	lucas.floraola@gmail.com
Flora Delight	Summer flowers	Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Florenza Ltd	Roses	Solai	Yogeesh	0737453768	farm.florenza@megasingroup.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@bth.co.ke
Groove	Flowers	Naivasha	John Ngoni	0724448601	groovekenya@gmail.com
Hanna Roses Ltd	Roses	Thika	Kadlag Palaji	0723149968	kadlag.paraji@hannaroses.com
Harvest Flowers Group	Roses	Murunguru	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Harvest Ltd	Roses	Athiriver	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Heritage Flowers Ltd	Roses		Shailesh Kumar	0722203750	hfl.srk@gmail.com
Highland plantations	Cuttings & Herbs	Olkalau			production@highlandplants.co.ke
Imani Flowers	Summer Flowers	Nakuru	Raphael Otieno	0792302466	raphael@imaniflowers.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	-	production@kariki.co.ke
Kariki Ltd - Nanyuki	Eryngiums	Nanyuki	Richard Fernandes	062-31023/6	bondet.production@karik.biz
Kariki Ltd - Naivasha	Hypericum	Naivasha	Peter Kamwaro	0721758644	hamwe.fm@kariki.biz
Kariki Ltd - Molo	Fowers	Molo	James Oluoch	0716333717	jame.oluoch@kariki.biz
Kariki - Hamwe	Hypericum	-	Benjamin Ribai	0723721748	hamwe.fm@kariki.biz
Kenflora Limited		Kiambu/ Limuru	Abdul Aleem	0722311468	info@kenflora.com
Kentalya	Cuttings	Naivasha	Linnat	0733549773	lynette@kentalya.com
Kisima Farm Ltd	Roses	Timau	Craig Oulton	0722205828	craig@kisima.co.ke
Kordes Roses	Roses- Breeders	Karen	Luce	0735995566	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	Flowers	Naivasha	Prabhakaran. M	0743078733	prabhakaran@vegpro-group.com
Kongoni River Farm - Kongoni	Flowers	Timau	Oppaso Bandgar	07120070053	oppassobandgar@vegpro-group.com
Kongoni River Farm -Bemack	Flowers	Timau	Mangesh	0797 874583	
Kongoni River Farm - Galaxy	Roses	Naivasha	Kiran Nangare	0787787544	kiran@vegpro-group.com
Kongoni River Farm- Longonot	Roses	Naivasha	Rakesh Kuttaiah	0724631299	rakesh.kuttaiah@vegpro-group.com
Lamorna Ltd	Roses	Naivasha	Mureithi	0722238474	admin@lamornaflowers.com
Lathyflora		Limuru	Mbauni John	0753888126	info@lathyflora.com
Lauren International	Flowers	Thika	Chris Ogutu/Carlos	0722783598	laurenflowers@accesskenya.co.ke
Laurel Investment	Roses	Nakuru	Rajendra Jadhav	0738359459	rajendra.laurel@bht.co.ke
Livewire	Hypericum	Naivasha	Esau Onyango	0728606878	management@livewire.co.ke
Lolomarik	Roses	Nanyuki	Topper Murry	0715 727991	topper@lolomarik.com
Magana	Roses	Nairobi	Geoffrey Suguvi	0720806239	assistantntproduction
Mahee Flowers	Roses	Olkalao	Natarajan	0738999149	natarajan@eaga.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflowers.com
Maua Agritech	Flowers	Isinya	Madan Chavan	0738669799	production@mauaagritech.com
Mau Flora	Roses	Molo	Mahesh	0787765684	mahesh@maufloora.co.ke
Milenium Growers	Summer Flowers	-	Sushant Wankara	0731316000	sushant@marvelgreens.com
Molo Greens	Solidago, carnations	-	Justus Metho	0722755396	justus@mologreens.com
Mt. Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395,	bob@mtelgon.com
Mwanzi Flowers Ltd	Roses	Rumuruti	Ram	0722265845	-
Mzuurie Flowers - Maji Mazuri	Roses	Eldoret	Mark Juma	0727471034	mjuma@majimazuri.co.ke
Mzuurie Flowers - Molo River Roses	Flowers	Kilelwa	Andrew Wambua	0724256592	awambua@moloriverroses.co.ke
Mzuurie Flowers - Winchester Farm	Roses	Karen	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Mzuurie Flowers - Winchester Farm	Flowers	Bahati	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Nini Farms	Roses	Naivasha	Philip Kuria	0720611623	production@niniLtd.com
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
Ol Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Oserian	Flowers	Naivasha	Christine Karambu	0702350689	christine.karambu@oserial.com
Panda Flowers	Roses	Naivasha	Geoffrey Kanyari	0712215419	farm.manager@pandaflowers.co.ke
Panocol International	Roses	Eldoret	Mr. Paul Wekesa	0722748298	paul.wekesa@panocol.co.ke
Penta	Flowers	Thika	Tom Ochieng	0723904006	tom@pentaflowers.co.ke
Pendekeza	Roses	Nanyuki	Richard Siele	0722716158	tambuzi.sales@tambuzi.co.ke
PJ Dave Flowers	Flowers	Isinya	Sanjiv Dogra	0737576966	pidaveflowers@wananchi.com



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
PJ Flora	Roses	Isinya	Santos Kulkarni	0738990521	santosh@pjdave.com
Plantech Kenya Ltd	Propagators	Naivasha	Idan Salvy	0702187105	idan@plantechkenya.com
Porini Flowers	Roses	Molo	Vivek Sharma	0731040498	gm@poriniflowers.com
Primarosa Flowers Ltd	Roses	Olnjororok	Jai Prakash	0780785603	production.mp2@primarosaflowers.com
Rain Forest Farmlands Ltd	Roses	Naivasha	Lucas Onena Ongere	0718925040	longere@fleurafrica.com
Ravine Roses Flowers	Flowers	Nakuru	Peter Kamuren	0722205657	pkamuren@karenroses.com
Redland Roses	Flowers	Thika	Aldric Spindler	0733603572	aldric@redlandsroses.co.ke
Redwing Flowers	Flowers	Nakuru	Simon Sayer	0722227278	sayer@redwingltd.co.ke
Rift Valley Roses (K) Ltd	Flowers	Naivasha	Peterson Muchiri	0721216026	fm@riftvalleyroses.co.ke
Rimiflora Ltd	Hypericum	Njoro	Richard Mutua	0722357678	richard@rimiflora.com
Riverdale Blooms Ltd	Flowers	Thika	Antony Mutugi	0202095901	rdale@swiftkenya.com
Roseto	Roses	Roseto	Aravind	0786157344	gm.roseto@megaspingroup.com
Savannah international	Geranium	Naivasha	Ignatius lukulu	0728424902	i.lukulu@savanna-international.com
Selecta Kenya		Thika	Robert Khamala	0727 467 464	r.khamala@selectakenya.com
Sojanmi Spring Fields	Roses	Njoro	Ashesh Mishra	0792217088	ashesh@xflora.net
Schreus	Roses	Naivasha	Haiko Backer	-	-
Shades Horticulture	Flowers	Isinya	Ashutosh Mishra	0722972018	info@shadeshorticulture.com
Shalimar Flowers	Flowers	Naivasha	Dinkar Wandhekar	0702418174	dinkar@eaga.co.ke
Sian Roses - Maasai Flowers	Flowers	Isinya	Anthony Kipng'eno	-	-
Sian Roses - Agriflora (K) Ltd	Roses	Nakuru	Charles Mulemba	-	cmulemba@sianroses.co.ke
Sian Roses - Equator Roses	Roses	Eldoret	Nehemiah Kangogo	0725848910	nkangogo@sianroses.co.ke
Sierra flora	Roses	Njoro	Sharieff	0787243952	farm.sierra@megaspingroup.com
Simbi Roses	Roses	Thika	Karue Jefferson	067 44292	simbi@sansora.co.ke
Sirgoek Flowers	Flowers	Eldoret	Andrew Keittany	0725 946429	sirgoek@africaonline.co.ke
Solai Milmet/Tindress	Flowers	Nakuru	Jagtap	0733996202	solairoses@gmail.com
Subati Flowers	Roses	Subukia	Naren Patel	0712 584124	naren@subatiflowers.com
Subati Flowers	Roses	Naivasha	Naren Patel	0712 584124	naren@subatiflowers.com
Suera Flowers Ltd	Roses	Nyahururu	George Kimathi	0724622638	gkbuuri@gmail.com
Sunfloritech	Roses	-	Peter Wekesa	0729163607	-
Sunland Timau Flair	Roses	Timau	Ken Mwiti	-	info@lobelia.co.ke
Stockman rozen	Roses	Naivasha	Julius muchiri	0708220408	julius@srk.co.ke
Syngenta Flowers - Kenya Cuttings	Flowers	Thika	Kavosi Philip	0721225540	philip.munyoki@syngenta.com
Syngenta Flowers - Pollen	Flowers	Thika	Joseph Ayieko	0733552500	joseph.ayieko@syngenta.com
Tambuzi	Roses	Nanyuki	Richard Siele	0722716158	tambuzi.sales@tambuzi.co.ke
Terrasol	-	Nairobi	Jacques	0705 519 633	jacques@pvdhaak.nl
Timaflo Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflo.com
Top Harvest	Roses	-	Pius Kimani	0721747623	pius.kimani@gmail.com
Transebel	Flowers	Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke
Uhuru Flowers	Flowers	Nanyuki	Ivan Freeman	0713889574	ivan@uhuruflowers.co.ke
Utee Estate	Chrysanthemums	Nairobi	Appaso Mane	0737 513 844	mane.uel@btfgroup.com
United Selections	Roses -Breeder	Nakuru	Fred Kisumo	0720107691	fkisumo@united-selections.com
V.D.Berg Roses	Flowers	Naivasha	Johan Remeus	0721868312	johan@roseskenya.com
Valentine Ltd		Kiambu/Limuru	Joseph Kariuki	0728 093 379	joseph.kariuki@valentinegrowers.com
Van Kleef Kenya Ltd	Roses		Judith Zuurbier		roses@vankleef.nl
Van Kleef Ltd	Roses	Njoro	Karan Mandanna	078500460	karan@vankleef.nl
WAC International	Breeder	Naivasha	Richard Mc Gonnell	0722810968	richard@wac-international.com
Waridi Ltd		Athi River	Julius Ruto	-	farmmanager@waridi.com
Wilham Kabuku	-	Nairobi	Natarajan	0735 792 063	natarajan@eaga.co.ke
Wildfire	Roses/summer	Naivasha	Eliud Kimani	0727598349	roses@wildfire-flowers.com
Wilfay Flowers	Gypsophila/hypericum	Subukia	Makori	0723358644	makoriwilfay@gmail.com
Wilmar Agro Ltd	Summer Flowers	Thika	Alice Muiruri	0722 321203	alice.muiruri@wilmar.co.ke
Windsor		Thika	Pradeep Bodumalla	0736 586 059	farm@windsor-flowers.com
Xpressions Flora	Roses	Njoro	Brijesh Patel	0715469732	brijesh.patel@xflora.net
Zena - Asai Farm	Roses	Eldoret	Phanuel Ochunga	0722506026	pochunga@zenaroses.com
Zena Roses - Sosiani Farm	Roses	Eldoret	Jackson Mbanya	-	-



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