

March - April 2020

THE LEADING FLORICULTURAL JOURNAL IN THE REGION

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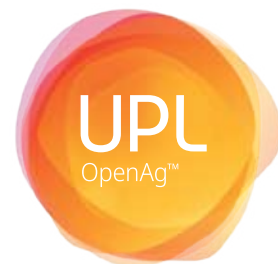
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## The Leading Floriculture Magazine

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## We need more love

*The nerves of the first date, the first kiss, your first fight (and the first time you make up). Then moving in together, finding passion in the daily routine, a warm body to cuddle up to, and jokes that only you two understand. Then saying yes, buying a house (where you argue about the colour of paint in the bedroom), building your very own family, date nights, and finally sitting together on the sofa with a cup of tea in hand, old and wrinkly, and congratulating each other that you made it. Isn't that what we all dream of? We need more love. This Valentine's Day, did you take the first step?*

*Maybe you've been happily married for forty years, or maybe your crush doesn't even know you exist. Perhaps what you thought was a fleeting love affair is growing increasingly complicated. No matter the situation you find yourself in, there's always a way to communicate your feelings with flowers. Make an unforgettable first impression with this first date bouquet, highlight your special bond with a true love bouquet, or let someone know how you feel about them with the secret admirer bouquet.*

*Flowers bring joy to people, so hug your partner and sweep them off their feet with the beauty of flowers. To reaffirm your love, surprise them throughout the day with flowers in unexpected places. Or if it is love starting to blossom, there is a list of 5 flirtatious flowers to bring together in an attractive bouquet. If you're*



*planning a Galentine's Day get together with girlfriends, then have a look at some romantic rose punch. And if Valentine's Day really isn't for you this year, then soothe the pain of a broken heart with a lily.*

*Happy Galentine's Day!*

*Masila Kanyingi  
Editor*



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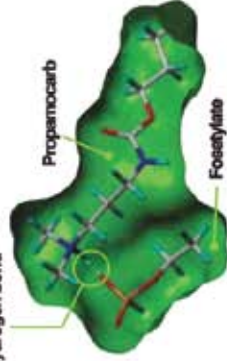
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# Valentine's Day 2020: Ups and Downs In International Rose Trade

The Valentine's rush is over. So it's time to reflect. When looking at the international rose trade ahead of Valentine's Day, it has been dictated by the weather. Kenya has had a lot of rain, which slowed down production and in turn reduced the supply for Valentine's Day. In Ecuador, as well as India, higher temperatures brought production forward. Sales from Colombia haven't been bad, but both Latin American countries missed out on orders to China due to the COVID-19 virus and there were complaints about overproduction. According to various growers and exporters, the fact that Valentine's Day was on a Friday hasn't helped. Americans had a day off the following Monday, so they were more out and about and thus less inclined to buy flowers.

Ethiopia on the other hand had good production weather, and at the Dutch auction the shortage of Kenyan roses resulted in higher prices. Both they and the Dutch growers benefited most from that: 9% fewer cut flowers resulted in a 10% increase on the average price, as Royal FloraHolland reported. For the Dutch growers, this was only about 3% - the produce from Kenya that did make it through, sold for no less than 20% more compared to last year. The Ethiopian rose, of which 5% more came in than usual, went for 11% over the average price.

## Trade

Traders were a bit less positive on the sales, Dutch wholesale organization VGB reports. Although the export value increased in January by 6% to 471 million euros, the effects of the COVID-19 virus on the export



value to China were clearly noticeable. The export to China decreased by 27% in January, export statistics from Floridata show. The high rose prices also meant that the Dutch grower was able to make a profit, but for traders it turned out to be more difficult to get a margin.

## Online sales

Dutch bank ABN AMRO forecasts that flower sales in the Netherlands will be stable for the next two years, but that the share of online sales will grow by about 7% annually. In recent years, the growth of online flower sales has been modest. From 4.3% in 2016 to 5% in 2019, which does mean faster growth than the revenue generated by brick-and-mortar flower and plant shops. That growth has stagnated, according to the report, which was compiled together with Chrysal and E-Flora.



### International

Growers confirmed these developments. David Espinosa, General Manager with Matiz Roses (Ecuador), said Valentine's Day was challenging this year. "Fortunately, the sales were good and the logistics for this holiday was OK as well. However, weather was tricky, too warm, which meant that there were more roses (about 5% more) exported out of Ecuador than last year and more or less the same price level."

Santiago Luzuriaga, General Manager with Ecuadorian rose nursery BellaRosa, agrees. "Weather conditions have been very different from other years, making it more difficult to plan production in advance. We plan production according to the cycle it takes to each rose to grow and bloom, usually the cycle is between 85 to 103 days depending on the variety and the altitude of the farm. But now that weather has changed, and plants received higher temperature during last months, the cycle of roses reduced up to 5 days in some cases, which meant that production



planned for Valentine's Day concentrated earlier, having lower production in the last days of the season."

He also adds that the cancellation of orders from China caused extra difficulty. "We had cancellations of all orders for that market - a lot of tinted flower on request - to Chinese customers' preferences; for two factors: people did not leave home for the emergency and the airlines cancelled all cargo flights to that destination."

Despite all challenges Luzuriaga is satisfied

with this year's Valentine's Day. "We're satisfied because we reduced costs in several areas, including labour costs (even in staff), that helped us to obtain earnings, with lower sales than last year Valentine's Day season."

David Quesada of Inverpalmas from Colombia also indicates he's pleased with the development of the sales. This year, he sold more flowers, at more or less the same prices. He also experienced good weather, and when it started to freeze in the second week February, most of the Valentine's Day production had already been shipped. He says logistics were also excellent this year, with 'no airspace issues'.

India also faced issues with unpredictable weather and the COVID-19 virus, says Narendra Patil of Soex Flora. "We had delayed winter and some of the production started earlier than scheduled. Also they had to face some challenges with airlines space as many of them were carrying relief material and vaccines for China."

Finally Sujit Govindan, General Manager with Hansa Flowers from Ethiopia, says they have something to celebrate. Usually, in the run-up to Valentine's Day, it is too cold in Ethiopia to supply large volumes. However, this year, the weather was exceptional. "The weather was excellent, the quality good, and so were the price", says Govindan.

### Women's Day

Now, the Valentine's Day is over, many growers are already looking at the next big flower holiday, namely Women's Day. This holiday is celebrated widely with flowers in Russia on March 8, but is increasingly becoming an important flower holiday around the world.



# The Journey of Our Fresh

*Floriculture Magazine compiled the most frequent questions that clients ask so that you can learn first-hand about operation and distribution process.*

**How is the process of receiving flowers, once they arrive from their place of origin to the importing country?**

The flowers make their journey from many parts of the world. Most tulips, ranunculus, cymbidiums, hyacinths and some hydrangeas, among other flowers, are imported from Dutch growers in Holland. Roses come from top farm providers in Kenya, Colombia and Ecuador. Once the cargo arrives the product is then transported to airport facilities.

**Q: What are the most common problems you have when receiving flowers and how do you solve them?**

At times we may face issues that are out of our control. When the shipment arrive at the port, the flowers must go through clearance and pass inspection by the port inspection teams. During this process, boxes are randomly selected and inspected. If the flowers do not pass the inspection they are held by the department or the product selected may be damaged in the inspection process.

At the facility, the Quality Control team inspects each bunch upon arrival. They may encounter flowers with pests or botrytis (fungus) for instance, in which case the flower is deemed non-saleable and discarded. Any other defects that they check for include falling heads or petals, moldy petals, and damaged stems.



**Q: How long does the process of receiving flowers take to deliver to customers?**

The process of receiving flowers at the airport facility and transporting an order to a customer takes 48 to 72 hours. For instance, the farm will ship roses from Kenya to Amsterdam. Then custom packed boxes are transported overnight and arrive to the client the next day.

**Q: How much volume of floral shipments is handled?**

A single importer can handle thousands of flower

boxes weekly to supply the great demand that exists. The volume varies depending on the week. This includes all the different types of products. During the two weeks of





# Cut Flowers to Florists

Valentine's Day shipments, are higher.

## **Q: How is quality control process when flowers are received?**

When the flowers arrive at the facility, Quality Control Managers check the product before receiving it into the inventory management system. Each box of flowers received from the farms is placed on a conveyor inside the cooler which is maintained at 34 degrees Fahrenheit. Using the documentation from the farms the receivers check that the quantities and varieties shipped are correct. Then each bunch is inspected for quality assurance making sure there is no mold or damage. If the product meets expected standards, then the flowers are received in the inventory system. Each box is labelled with a barcode listing the expiration date, the quantity, the variety, and the farm lot. This allows tracking of daily floral inventory.

## **Q: How is the flower distribution process once these are already in the cooler?**

Once the flowers are in the inventory, the product is available to customers. When a customer places an order with the sales team, a pick list is received in the shipping department. The picklist indicates the customer, the shipping address, the floral varieties, the quantities for each flower listed by lot number, and the total item quantity and total cubic weight. The employees in the cooler use the picklist to pack the order. The varieties are picked by the bunch in the inventory cooler and taken to

the adjacent packing cooler. Depending on the size of the order (in weight) the flowers are packed into one of the four box sizes. Each box is precooled and insulated to maintain the temperature of the ice packs within the box. Each bunch is strategically packed into the box to ensure the flowers are snug and protected during transit.

## **Q: How can an order be placed?**

Professional florists and event planners may order through a call. Each account manager is trained on all products and is highly experienced in the floral industry. Although some companies may offer e-Commerce, some importers prefer to speak to their customers when they place an order because the inventory is live, and their flowers are fresh from the farms. They do not carry over products. Customers may order varieties and quantities by the bunch. They accommodate the customer's needs and custom pack the order whether it is for a small flower shop or a large wedding or event.

Most buyers have an established process to deliver the right variety and quality, they manage strategic alliances with the best flower farms in the world with whom they have exclusivity and direct representation. They also have all the technology and adequate facilities to keep the flowers in perfect condition. The most important factor is that they have a committed and trained sales staff to meet the demanding needs of the customers.



*Photo: courtesy of Black Tulip*





## Valentine's Day in UAE: Where Will Your Rose be Coming From?

If you are feeling anxious about Valentine's Day, spare a thought for those working in the floral industry. For them, this is the busiest time of the year, and it's largely about just one flower: the ubiquitous red rose.

Ahead of February 14, Gulf News visited Black Tulip Flowers, the region's largest floral company, to gain an insight into how they deliver millions of Valentine's Day roses in 35 countries worldwide.

The Sharjah-based company begins operations at 3.45am when most of us are still in bed, to prepare for their biggest days of flower sales.

"We are the third largest flower grower in

the world and this is the peak time for our business so one can well imagine what's it like here," said the company's owner and chairman M.M. Ehiya, an Indian expert who started from a small flower shop on Sharjah's King Faisal Road in 1990.

### Flourishing business

In addition to 21 outlets in the UAE, today Black Tulip owns 11 flower farms in Kenya, five in Ethiopia and two in India. Around 8-10 tonnes of flowers are imported from these farms daily.

The company's nondescript headquarters in Al Nahda was abuzz with activity as scores of florists worked overtime, pruning roses and trimming stems when Gulf News dropped by at the place.

"Valentine's Day is all about the red rose, the unquestionable symbol of love," said head of marketing Deepali Gupta who, like most of Black Tulip's 8,000 odd staff, has been scrambling to meet the enormous demand.

"We cater to over 200 hotels across various emirates besides major hypermarkets, government entities and corporate houses in the country," she added. "All hotels under annual contracts for weekly flowers have got bespoke florals displays installed by our designer crew ahead of Valentine's Day while remaining hotels chains associated with us for wholesale supply have placed bulk orders for red roses for their guests. Each hypermarket chain is buying anywhere between 30,000 and 70,000 roses."



### Petals to the metal

A staggering 1.5 million rose stems were flown to the UAE alone for valentines. That's almost twice as much as the company imports in an entire month.

"We cater to 217 hotels in the UAE besides almost all major hypermarkets in the country. Almost all hotels chains have placed bulk orders for rose buds for their guests, while each hypermarket chain is buying anywhere between 50,000 and 70,000 roses from us daily.

### Kenyan connection

Around 70 per cent of these roses are from Black Tulip's farms in Kenya where decayed manure from 2,000 cows is used to help the flowers get their distinct crimson hue and myrrh scent.

"We have over 200 varieties of roses including the much sought-after Ecuadorians known for their large size, vibrant colours and long vase life. They are very popular among Russians," said head of operations Imran Khan whose job is to ensure the flowers remain bright and fresh, and more importantly, reach customers on time.

"Ecuadorian stems can grow up to 150 centimetres, making them truly special for that someone special. However, each stem could set you back roughly Dh40. In comparison, a Kenyan rose retails for just Dh7," explained Khan as he gave us peak into the journey of the delicate and time-sensitive perishable product from overseas farms to vases in the UAE.

### Cold chain

"The whole process entails several critical junctures. The cold chain is one of the most important aspect of floral management. We have to maintain consistent temperatures throughout the journey which starts from the farm where the flowers are harvested. Once farm workers place the flowers in cardboard boxes, they're hauled to the airport where a plane brings them to the UAE. After they have cleared airport customs, the boxes are stored in refrigerated facilities before being transported to our warehouses in specialised cold trucks called Reefer Vans,"

manager said Valentine's Day is their busiest and most profitable time after Mother's Day. "There have been occasions when I had to sleep in office to oversee things," he said. Ehiya said despite the wide range of gifting options, roses reign supreme on Valentine's Day. "As long as there is love, there will be red roses," he said.

### In numbers

- 1.5 million - the number of rose stems that have been flown into the UAE for Valentine's Day



said Khan.

"Here, they undergo rigorous quality check and then moved to cold rooms before being dispatched to flower shops, Hotels, and direct end-users," he added.

Abraham Sunny, company's group general

- 150 centimetres - the stem length of Ecuadorian roses
- Dh7 - how much a Kenyan rose stem costs in the retail market
- 50,000 tonnes - weight of flowers were transported globally by Emirates SkyCargo in 2018.



### Top tips to keep flowers last longer

- Cut the stems: Use garden shears to trim one to two inches off and cut at an angle to allows for better water intake
- Prune: Remove any leaves below the water line to prevent bacterial growth.
- Water wisely: Get your bouquet hydrated, but do so wisely, don't overwater, add a tablespoon of apple cider vinegar and sugar to the room temperature water.

# Will Brexit Make Valentine's Day Flowers Less Expensive?

*Global free trade can be quite romantic* **Andrew Watts**

**A**ny florist will recognise the look of furtive shame, the shifty hangdog look which announces that an Englishman is about to buy flowers. Some of them try to make it easier for you. I used to go to a splendid florist in Ealing who talked to me about rugby for no less than five minutes each visit. But most florists are more interested in flowers than people, and let it show.

For some reason, you're never allowed to write the card yourself. You have to dictate it, endearments and private jokes and all, while a couple of women who remind you of your mother lurk in the background. My colleague Rory Sutherland believes that this is the point, that buying flowers is something men don't like doing, so it is a mild human sacrifice which signals intent, a commitment device.

This would also explain why flowers are expensive — signalling is ineffective unless it is costly — especially around St Valentine's Day. But much as I dislike florists, I am not going to criticise them for profiteering this week. It is true that roses are cheaper on 15 February than the day before — asking your wife to wait 24 hours for her bouquet sends a very powerful signal indeed — but that is largely accounted for by florists trying to offload excess stock rather than price gouging the day before.

In fact, it is not unusual for flower shops to

lose money on Valentine's Day. This may sound as improbable as bookies losing money on Grand National weekend, but as the editor of *The Florist* magazine, Caroline Marshall-Foster, explains: 'The price of roses depends on global supply and demand. But in reality, a lot of people who are selling red roses are absorbing the uplift themselves. Your average florist hates Valentine's Day. We have to deliver every single bouquet at the same time. Physically it's an incredibly demanding day. Roses are a bitch.'

The supply of roses for Valentine's Day is truly global, not least because they are out of season in England. Most roses come from Holland, with the rest mainly from Kenya (31 per cent) and Colombia (5 per cent). Flying roses such distances may not seem environmentally sustainable, but air miles are not everything: roses from the Netherlands produce up to six times as much carbon dioxide as those from Kenya, because the power needed to heat greenhouses in a temperate climate causes far more carbon emissions than flying. In any event, outside of peak periods, flowers are usually flown as belly filler on commercial passenger airlines.

Although the Dutch market share has been falling for the past decade, the majority of British imports still come through their flower auctions. Royal FloraHolland's vast Aalsmeer auction house, which is the fourth largest building in the world, sells more than 20 million flowers a day, from 60 different

countries. Long lines of carts, packed with buckets of flowers, are pulled by electric tractor units through a huge warehouse. It's more like a hangar on the Death Star than a scene from *My Fair Lady*.

Royal FloraHolland is owned by the growers, and acts on their behalf. Its Rose Excess Policy, which was tightened just in time for Valentine's Day, ensures that growers who supply too much ('dumping') have the excess removed from auction. I suggest to Michel van Schie, from Royal Flora-Holland, that this sounds very much like restricting supply to keep prices high, but he demurs: 'I don't think that's the case. We sell 3.2 billion roses a year. It is important for us — for the growers — that the market is not affected by mass production, which will cause lower prices. It makes no sense to produce as many roses







*Most roses come from Holland, with the rest mainly from Kenya (31 per cent) and Colombia (5 per cent). Flying roses such distances may not seem environmentally sustainable, but air miles are not everything: roses from the Netherlands produce up to six times as much carbon dioxide as those from Kenya, because the power needed to heat greenhouses in a temperate climate causes far more carbon emissions than flying.*

as possible if quality is not that high. That will disturb the market, and is not in the interest of the growers, or the buyers. Or the consumer.'

Like most people in the industry, Michel is still worried about the possibility of a no-deal Brexit: there is no margin for delay when flowers lose 15 per cent of their value for every extra day spent travelling.

Colombian farmers had bred glyphosate-tolerant coca.

A far more effective measure was that the US Congress dropped all tariffs on cut flowers from Colombia. The high altitudes and equatorial climate which made Colombia perfect for coca were also ideal conditions for growing roses, and trade blossomed. Last year, Colombia shipped four billion flowers to the USA, a dozen for every US resident. I rather like the swords-into-ploughshares idea of narcos switching to roses. I'd shop at Escobar Blooms and Floral Tributes.

A spokeswoman for Florverde, a trade organisation for the Colombian flower industry, snippily insists though that they are signed up to the Floriculture Sustainability Initiative, which requires recognition of labour rights as well as meeting environmental standards. (She also points out that Dutch growers only agreed to adopt the FSI at the end of last year, and

still haven't set a date for its full implementation.) If there

But rose exporters like Kenya are now talking about exporting directly to the UK. Nairobi's Jomo Kenyatta Airport has a dedicated flower terminal and Kenya already supplies many of our supermarkets. While the infrastructure is not as developed as for the Nairobi-Amsterdam route, it is improving; Kenya now exports more flowers directly than via auction. Other countries are hoping that Britain will cut EU tariffs on their roses.

Free trade in the global flower industry will not just benefit British men on Valentine's Day through lower prices. Take Colombia, for years blighted by the cocaine cartels. The Colombian government tried eradicating the coca crop by aerial spraying with the herbicide glyphosate; this was banned by the Colombian courts, but not before

are dodgy cartels in the flower industry, they're not in Colombia.

My wife is still expecting a bunch of flowers, so I'm readying myself to face the florist.

I have already written a card, to place inside a bunch of Colombian roses. Like many Spectator readers, I can be quite romantic — about global free trade.



# Cost of Roses Rises Sharply After Heavy Rains Hit Kenya



**F**lower prices have more than doubled during this year's Valentine's season due to a shortage of the commodity caused by heavy rains that destroyed the flowers late last year.

Firms dealing in flowers have registered with some recording a 60 percent drop in production this season following heavy rains in a season that was plagued by pests and diseases, which in turn hurt supplies.

Rains ended late in January and growers said they required at least 14 weeks to grow new roses, derailing chances of the new flowers being ready for Valentine's Day. As a result, a bouquet of flowers that was selling at Sh700 last year sold at Sh1,500 with buyers complaining of difficulties in getting the stems from farms.

"The industry is grappling with a 60 percent decline in production following heavy rains that impacted negatively on flowers last year," said Mary Kinyua, the general manager at Oserian Flower farm.

The decline in production, which had not been anticipated, has seen flower firms revise their orders for overseas buyers due to difficulties in meeting demand.

Lilian Ikiriwaje, the director of Tigerlily Flower Corner, said her company had to cut the quantities of flowers they buy because of the higher prices.

At City Market in Nairobi, flower vendors increased the cost of a stem from Sh20 to Sh50.

Ojepati Okesegere, the chief executive officer of Fresh Producers Consortium of Kenya, said there was limited supply of flowers not only for the local market but also for overseas customers. "This will be an expensive Valentine's Day for Kenyans because of the shortage of flowers that has seen the prices shoot through the roof," he said.

Kenya is already feeling the impact of declining production with a dip in earnings in the nine months to September 2019. Earnings from horticulture in that period dropped by Sh9 billion, pointing to reduced

earnings in 2019.

Statistics from the Kenya National Bureau of Statistics (KNBS) showed that earnings in the review period had dropped from Sh115 billion in a corresponding period last year to Sh105 billion in September.

The cut-flower export remains the largest earner of horticulture, contributing over 70 percent of the total fresh produce in annual earnings.

The low volumes of flowers have also hit freighters who normally make a windfall around this time of the year when they get increased orders for flowers in Europe.

Last year, as has been the case in past Valentine's Day seasons, freight firms would increase the number of flights to Europe because of high supply from local flower firms and enhanced demand from customers abroad.

Sanjeev Gadhia, chief executive officer of Astral Aviation, said they have not added extra flights to Europe this year because of the low volumes. The airline, which operates five flights a week to Europe and others across African countries, added eight flights to Europe last year.

Kenyan flowers are among the best in the world and European countries place huge orders for the produce.





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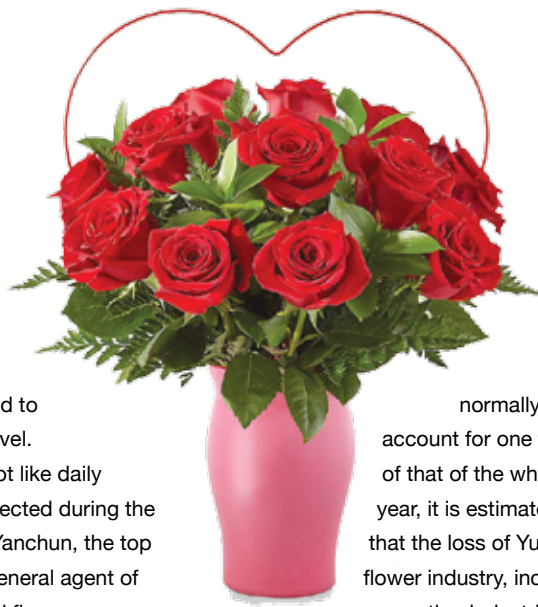
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# COVID-19 Dampens Valentine's Day Spirits in China



**F**lorist Zhong Wenping is usually racing around at valentine's time, preparing for Valentine's Day. But this year her flower shop in Jingshan, a small city in central Hubei province, was quiet.

Like many places in the province at the centre of a deadly coronavirus outbreak, the streets of Jingshan were empty. Wedding banquets and other events were on hold. The shops are shut, as are cinemas, karaoke bars, restaurants and even banks. Checkpoints and guard posts have been set up at the entrance to every public building, and residential communities are in lockdown as authorities try to contain the outbreak that is believed to have started at a live animal and seafood market in the provincial capital Wuhan in December.

"It should have been the busiest day of the year for me because the Lunar New Year holiday is over and everyone should have been back to work," Zhong told the South China Morning Post.

"I should have started preparing roses a week ago, but people haven't been able to leave their homes since late last month – let alone do any celebrating," she said. "Also, how can you really sterilise flowers?"

## Flower shipments decimated

"The flower transportation capability related to

the Chinese market reduced to 10 percent of the normal level. Consumption of flowers, not like daily necessities, was greatly affected during the special period," said Guo Yanchun, the top executive of the Chinese general agent of Netherlands-headquartered flower care producer Chrysal.

"Our company majors in flower care products, which are relatively easy in stocking. We are already experiencing the influence of the epidemic. However, the influence for the fresh-cut flower enterprises is even bigger," she said, according to the Asia Times, citing a China Daily report.

Chen Yingxu, general manager of Beijing Jing Ke Hong Xiang Import and Export Trading, said the shipment of roses that were supposed to be transported to China were not shipped due to several flight cancellations.

"As sales during the Valentine's Day

normally account for one third of that of the whole year, it is estimated that the loss of Yunnan's flower industry, including supporting industries

such as logistics, during

the special period will reach 3 billion yuan to 5 billion yuan," said Wang Jihua, deputy director of the Yunnan Provincial Academy of Agricultural Sciences.

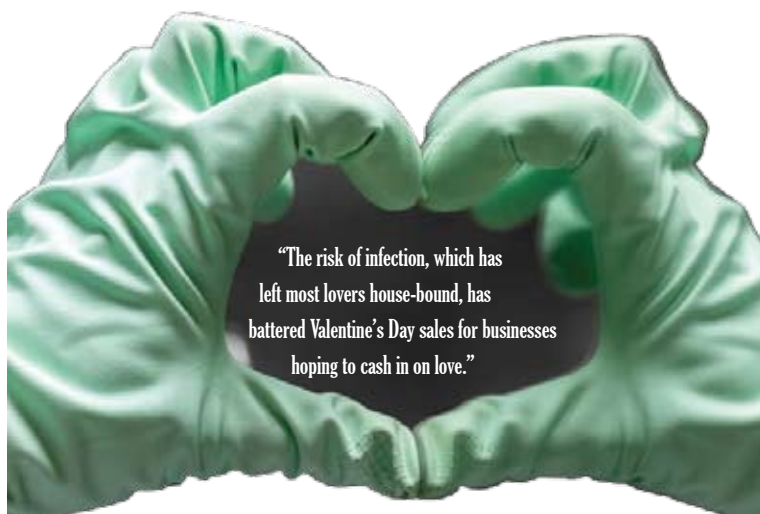
## Flower sales plunge

The risk of infection, which has left most lovers house-bound, has battered Valentine's Day sales for businesses hoping to cash in on love.

Flower shop Xian Hua Ge in Beijing said that sales plunged by up to 70 percent from last year – partly because many have not returned to the city to work.

Lu Ting, chief China economist at Nomura, said that the "return rate" of workers for China's four Tier-1 cities was only 19.4 percent as of 9 February, far below 66.7 percent a year ago.

A worker at Romanti Fresh Flowers said sales had dropped up to 50 percent in part because customers were fearful of virus transmission via delivery staff, while another shop said they had "no stock", The ASEAN Post reports.



"The risk of infection, which has left most lovers house-bound, has battered Valentine's Day sales for businesses hoping to cash in on love."



## Kenya Flower Council Cheers up hospital patients With Valentine's Flowers

The Kenyan cut-flower industry warmed the hearts of patients at the Kenyatta National Hospital with flowers. Kenya Flower Council (KFC), ensured that these patients did not miss the traditional Valentine's Day gift as 28 KFC member farms donated flowers. "We want to say it at home that there is "hope in the days ahead" to our patients - not just on Valentine's Day, but every day of the year", says Clement Tulezi, CEO of KFC.



hospital for over 6 years. Many have even been forgotten by their kin. And definitely not expecting any gift this Valentine's. You could see in their eyes how they are moved by this simple gesture."

"KFC is proud to be associated with taking care of our community on behalf of all its members and the flower industry. It's part of our sustainability initiatives. We were informed that this was a first at Kenyatta National Hospital"

### Flower industry - important to the community

Of every 100 flowers traversing the globe, 7 will be from Kenya - the fourth-largest cut-flowers producer in the world, behind the Netherlands, Colombia and Ecuador. In Europe, that figure goes up: in every 10 cut flowers are from Kenya.

Cut flowers earned Kenya KES, 113 Billion in 2018 a 38 cent increase compared to 2017. In addition to being among Kenya's highest contributors to foreign exchange, the floriculture industry employs over 150,000 of which more than half women, and overall creates employment for more than a million people indirectly and impacting in excess of 6 million lives.



Tulezi and his team went to the Kenyatta National Hospital to hand out the flowers. "It was such an experience to see patients appreciate the love and care demonstrated by us handing over a bouquet of flowers. Some have been at the





## Exports M

**Business hit by dip in production and**

**I**ndia is one of the major exporters of roses, but the business is dull owing to a dip in production.

The curbs on airlines has led to an increase in the price of roses. Flower Auction Bangalore Ltd (IFAB). Mr. Prasad said the disease.

T.M. Aravind, director of the South India Rose Growers Association, said production for exports ahead of Valentine's Day is 15 to 20 days," said Mr. Prasad.

**Good demand in local market**

The saving grace for rose growers is the local market. IFAB, said every day, more roses are being sold, fetching growers a good price.

Sellers hope to see a rise in prices in March, when the demand for roses is high.



# NOT So Rosy Ahead of Valentine's Day

## and coronavirus scare

of roses, caters to the huge demand for the flower in many European and West Asian countries ahead of Valentine's Day. But, this year, in production as well as restrictions on airlines in the wake of the coronavirus scare.

se in freight charges, and many carriers are less inclined to take perishable cargo, said V.H. Prasad, one of the directors of the International Moreover, the two major varieties of red roses Taj Mahal and Brilliant. production has been badly affected because of the downy mildew

a Floriculture Association (SIFA), said another setback was the early production of roses in Hosur. Mr. Prasad said the best window for Valentine's Day is between January 27 and February 13. "However, roses were ready in Hosur by January 20. The shelf life is not more than

flowers is the demand in the local markets owing to the ongoing wedding season. A.S. Mithun, Business Development Manager, than five lakh stems of roses are being auctioned at the centre. With reduced production, the demand is high, and this is d price.

re that the wedding will continue to which is one of markets.

season, which extends till mid-boost demand. "In Delhi, the major local



# Australian Consumers Go For Local Valentine's Day Flowers

**A**ldi Australia is selling a dozen roses for just \$19.99 but the bargain buy has some shoppers riled up on social media, Yahoo Finance reports.

One concerned social media user asked: "Where are they grown? How long have they been cut by the time they reach the store?"

Some other shoppers pointed out the impracticality of growing your own roses – which are notoriously difficult to cultivate – and how Aldi's flowers are high quality.

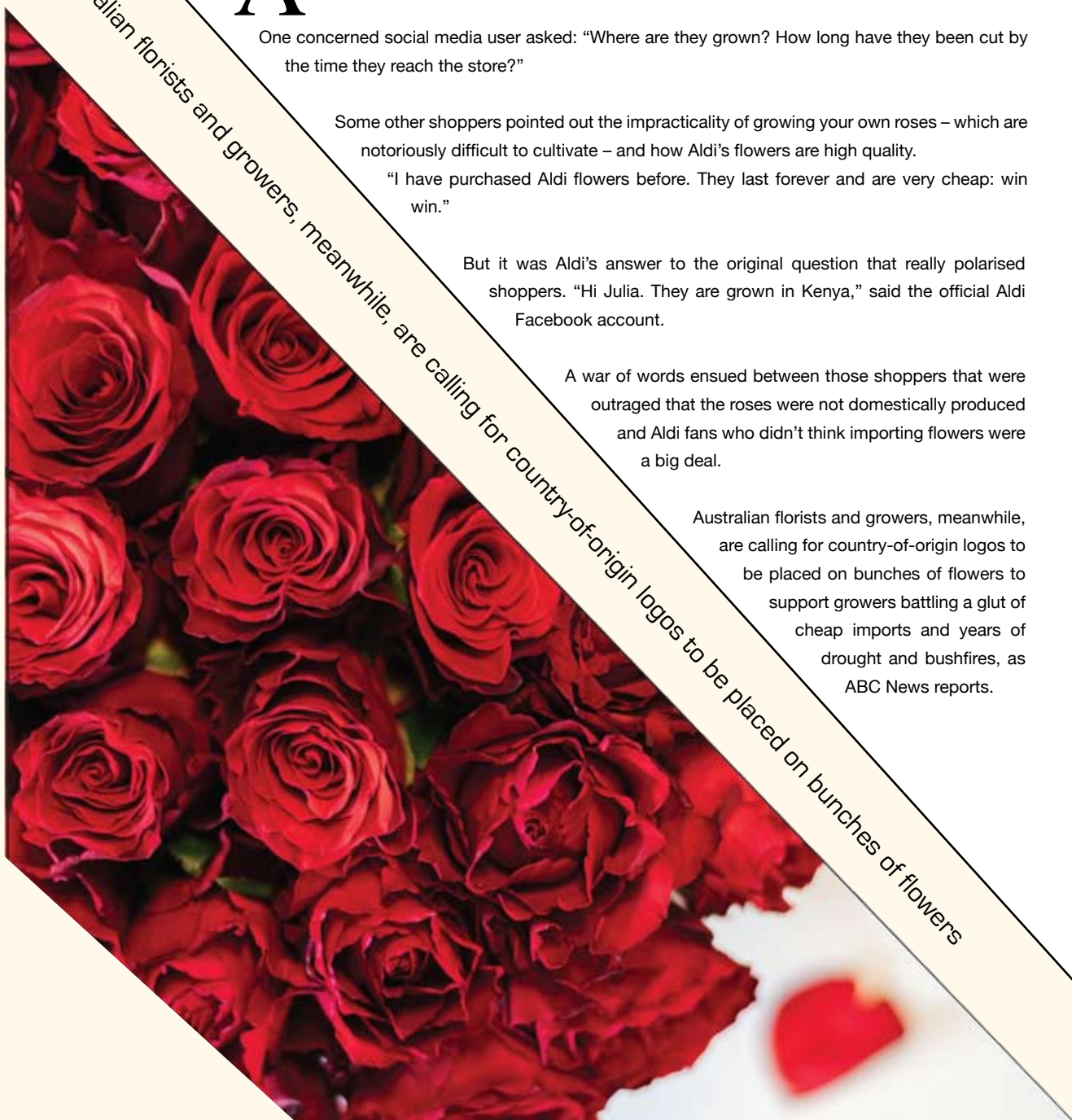
"I have purchased Aldi flowers before. They last forever and are very cheap: win win."

But it was Aldi's answer to the original question that really polarised shoppers. "Hi Julia. They are grown in Kenya," said the official Aldi Facebook account.

A war of words ensued between those shoppers that were outraged that the roses were not domestically produced and Aldi fans who didn't think importing flowers were a big deal.

Australian florists and growers, meanwhile, are calling for country-of-origin logos to be placed on bunches of flowers to support growers battling a glut of cheap imports and years of drought and bushfires, as ABC News reports.

Australian florists and growers, meanwhile, are calling for country-of-origin logos to be placed on bunches of flowers





# Why it's Not Rosy For Freighters During Valentine's Day Fete

There was little to smile about for freighters during this year's Valentine's Day following low volumes of flowers shipped due to damage caused by prolonged rains. Last year and as has been the case with other Valentine's Day seasons, freight firms have been increasing the number of flights to Europe because of high supply from local flower firms and enhanced demand from customers abroad.

"There was a lot of damaged because of rains that went longer than expected, wreaking havoc on farms," said Mr Ojepati, noting that flower firms had to also grapple with diseases, which impacted negatively on production in the country.

Sanjeev Gadhia, chief executive officer of Astral Aviation, says

they have not added extra flights to Europe this year because of low volumes.

The airline, which operates five flights a week in Europe and others across African countries, added eight flights to Europe last year.

Kenyan flowers are among the best in the world and

are among the

Cargo operators have, however, lauded the recent cargo deal between Nairobi and Washington, saying it will help in cutting down the number of days taken to export cargo from seven days currently to about one day.

He points out that direct flights will also allow them to bring in more goods after delivering their cargo in the US.

The amendment deal, which adds all-cargo rights to the existing air transport agreement, is expected to offer air carriers greater flexibility to meet customers' cargo and express delivery needs more efficiently.

The new deal adds seventh-freedom traffic rights for all-cargo operations, meaning cheaper costs and efficiency in cargo movement.

The agreement was signed in Washington D.C by US Assistant Secretary for Economic and Business Affairs Manisha Singh and Kenya's Transport Secretary James Macharia.

Mr Macharia said the deal "will facilitate expansion of air freight services by allowing airlines from both countries to set up and operate air cargo hubs in either country".

The cut-flower export remains the largest earner of horticulture, contributing over 70 percent of the total fresh produce in annual earnings.

western countries, especially Europe, always make huge orders for the produce.

Freighters argue that there is need for Kenya to diversify its market beyond European nations, who have been the key buyers of the Kenyan flowers.

# FSI Members Focus On 90% Target and Ambition 2025



**I**n a final stretch to reach the FSI 2020 ambition, members confirmed their efforts and action plans while already preparing additions to the benchmarks of sustainable sourcing towards 2025.

## Action plan by all FSI members

Through more frequent evaluation meetings, FSI members are sharing information on their responsible sourcing challenges, supporting their individual 90% target of sustainably sourced and traded flowers and plants.

Driven by the urgency to move quickly, they work on improving data quality, increasing certified sourcing availability, and mobilizing buying and executive management.

The 13 new members welcomed last year are picking up the pace and benefit from the work already done. If not there yet, those reporting will have 2 years to increase their responsible production/sourcing towards 90%.

## Mainstreaming sustainability

FSI members recognize that responsible

sourcing is a license to operate and because markets are expecting more transparency and responsibility from the sector, additional conditions are being prepared.

Building on the 2020 momentum, from 1st January 2021, responsible sourcing according to the FSI Basket will include new environmental requirements on demonstrable IPM systems as well as digital record keeping on agrochemicals, fertilizer, water and energy. This will further stimulate fact-based discussions using aggregated data and improvement of practices through the development of environmental indicators and footprint calculations. With these additional conditions, 90% responsible sourcing will remain in the coming years at the core of FSI members commitment.

## FSI 2025

Whilst still focusing on the 2020 ambition, FSI members have started formulating their ambition towards 2025. Building on the importance of transparency and responsibility in the floriculture supply chain, measurable impacts on key topics (IPM, Working Conditions, Carbon footprint and Living wage), and Integrated reporting will become future building blocks. By

taking ownership of their individual and sector progress, the active group of FSI members will continue to demonstrate what good sustainable practices look like, for the industry as well as individually.

On the way to this vision and with clear KPI's for FSI2025, FSI members will engage in working groups, setting-up pilots, communicating and evaluating results, improving action plans, and reviewing FSI governance towards launching the new FSI 2025 strategy at the General Assembly coming January 2021.

## New FSI Board of Directors

During the General Assembly last week, FSI members welcomed the candidates for Retail and CSOs: Laura Jungmann, Sustainability manager at Albert Heijn (Retail), and Margaux Yost, Manager HERproject at BSR - Business for Social Responsibility (CSO). Current Board representative for Production Noth, Gijs Kok, Director Sustainability & CSR at Royal FloraHolland will be replaced by Maarten Bánki, Manager sustainable development & quality at Royal FloraHolland, whose interim appointment was warmly received by the members.



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## **Rose Scarcity in Run-up to Valentine's Day Results in Higher Prices**

**R**oyal FloraHolland is pleased with the supply of the rose during Valentine. Guido Vollebregt, Product Manager Rose at Royal FloraHolland: "In total, in the days before Valentine's Day, over 152 million rose stems have been traded through Royal FloraHolland. This is more than 9% less compared to last year. The reason for this decrease are the many rains in Kenya.

"The scarcity led to a higher average price, the total average price increased by 10 percent and the average price out of Kenya by 20% compared to last year." The turnover at Royal FloraHolland for this product category remained more or less similar to last year.

### **Dutch grower takes advantage of scarcity**

Royal FloraHolland receives roses from three large production areas: Kenya, the Netherlands, and Ethiopia. The turnover segmentation is Kenya 40%, Netherlands 39% and Ethiopia 21%. The amount of flowers supplied by Dutch growers is similar to last year. They take advantage of the scarcity on the market, even though they grow a slightly different rose segment. They receive an average price that's around 3% higher compared to last year.

### **Supply out of Kenya and Ethiopia**

Out of Kenya, due to the heavy rainfall combined with fewer sun hours, 22% less stems were supplied. In comparison with the challenging weather in Kenya, neighboring country Ethiopia has had exceptionally good weather for the time of the year.

Source: Royal FloraHolland

**"In total, in the days before Valentine's Day, over 152 million rose stems have been traded through Royal FloraHolland. This is more than 9% less compared to last year. The reason for this decrease are the many rains in Kenya."**

## Flowers Still Top of Mind for Valentine's Day

**V**alentine's Day is the number one holiday for sheer volume of floral purchases, and a close second to Christmas in terms of dollars spent. Rio Roses shares a few key statistics to help you prepare.

### Fewer celebrating but more spending

Each year, fewer people say they will celebrate Valentine's Day; last year only 51% of those surveyed said they planned to celebrate, and that number has trended downward for the past 12 years. Conversely, more money is spent on Valentine's Day each year: In 2019, the average amount spent was \$162, well above the prior year's \$144, and the total amount spent was \$20.7 billion, a six percent increase over the prior year. This trend shows no signs of slowing down due to a continued strong economy.

### Roses: The queen of flowers for Valentine's Day

In 2019, 28 percent of American adults purchased flowers or plants as Valentine's gifts. The most popular flowers by far are roses, at 84% of total flowers purchased, with red roses being the most popular at 69% of all roses purchased. Following this are mixed flowers (45%); other types of flowers such as tulips, carnations, or lilies (41%); and plants (29%).

### Men are still the biggest spenders

According to a survey by the National Retail Federation, men are by far the biggest spenders on Valentine's Day. In 2019, the average amount spent by men was \$229.64, up 20% from 2018, and more than double the \$97.77 average that women spent. In terms of age groups, those 35–44 are the biggest spenders at \$279.14, followed by those 25–34 at \$239.07; this makes sense, as these age groups are typically the ones with young families to buy for, as well as their children's teachers and classmates.

### Nearly \$2 billion spent on flowers

While the most money spent on Valentine's Day is for jewelry (\$3.9 billion), an evening out (\$3.5 billion), and clothing (\$2.1 billion), nearly \$2 billion is spent on Valentine's Day flowers. Additionally, 35% of those surveyed said they would give flowers—higher than any other category except greeting cards and candy. The most popular spending destination is still department stores (35%), but 16% of Valentine's Day shoppers plan to spend money at florists.

**"In 2019, the average amount spent by men was \$229.64, up 20% from 2018, and more than double the \$97.77 average that women spent."**

**In terms of age groups, those 35–44 are the biggest spenders at \$279.14, followed by those 25–34 at \$239.07; this makes sense, as these age groups are typically the ones with young families to buy for, as well as their children's teachers and classmates."**





# The journey to get a perfect rose

On their journey from farm to vase, roses can face some tough conditions. They may travel long distances, face wide temperature fluctuations, high humidity or very dry conditions. It can be a challenge to ensure an optimum level of water uptake, preventing Botrytis and ethylene damage and giving

adequate nutrition. Chrysal has got you covered all the way. We have developed solutions to address all of these issues, keeping quality high and wastage low at all the stages of the journey. Our technical consultants are there to help you along the way. The result? **The perfect rose and happy customers.**



For more info please contact us at [info@chrysal.co.ke](mailto:info@chrysal.co.ke)





## AT HOME

Every consumer wants their rose to last as long as possible. Using Chrysal products at every step of the journey will ensure this. Chrysal Rose specialty flower food increases vase life up to 60% and ensures optimal flower development.



## TRANSPORT

Roses are shipped all over the world for longer or shorter periods and keeping them in top condition during transport is a challenge. Our Rose Dip Service aims to prevent roses from developing Botrytis and allows for longer storage and travelling increased distances. Our Freshliner keeps roses fresh without water during transport.



## FLORIST

At the wholesaler, supermarket and florist our T-Bags and Professional 2 keep roses in top condition without opening them too much. It reduces flower wastage up to 50%.



## GROWER PACKHOUSE & COLD STORE

At the packhouse and cold store roses need hydration and should stay in optimum condition. Our Rose Dip Service enables for longer storage.



## GROWER

From the moment they are harvested, roses start to lose their vitality. Our RVB Clear boosts water uptake and prevents bent-neck. Our unique Rose Dip Service will prevent Botrytis, while AVB can protect roses against the effects of ethylene damage.



**CHRYSA**

# Downy Mildew Management in Roses...The Best Way to Go



**Downy mildew, like powdery mildew obtains nutrients from the host plant. The disease grows locally and systemically in plants and can escape detection until the conditions are right for sporulation writes *Simon Kihungu (Left) and Maurice Koome (Right)***



Downy mildew in roses is caused by an obligate biotrophic oomycete in the family peronosporacea namely *Peronospora sparsa*. As the scientific name indicates, the production of spores is sparse and therefore this disease is difficult to diagnose and control. It attacks all types of roses both in the greenhouse, nursery and the landscape from potted miniatures to landscape-size roses and even shrub roses. It causes destruction of leaves, stems, and flowers of the infected plant. The pathogen produces zoospores that have flagella they use to “swim” to ideal infection sites. That is why wet plant surfaces make the disease much more prevalent.

The fungus overwinters in or on plant parts as a vegetative mycelium or in fallen plant debris as hardy Oospores. The

pathogen has short development cycles under optimum conditions, produces high quantities of spores and causes an irreversible damage to the crop.

#### **Reproduction:**

They reproduce by forming

sporangiophores and sporangia that develops and grow out of the undersurfaces of the infected leaves. Downy mildew (Oomycete fungi) are referred to as a high risk pathogens because of the following factors;



- Oomycetes fungi are able to spread in an explosive manner under favorable conditions.
- Short development cycle (8-10 days under optimum conditions)
- High potential for reproduction (high quantities of spores)
- Wide propagation by water and wind
- Damage is not reversible: The damaged tissues die in general leading quickly to substantial losses at harvest
- High genetic variability: Rapid appearance of strains less sensitive to



specifically acting fungicides possible.

### Predisposing factors for the Diseases Development.

The optimal conditions for the appearance of Downy Mildew are constant high humidity (RH 85-100%) low night temperatures and moisture on the leaves. The optimal temperatures for spore germination is between 10°C and 18°C no germination take place at temperatures below 5°C and the spores are killed at temperatures above 30°C.

The spores germinate within 4 hours in water, enter the leaves, and reproduce in three days. Spores survive on dried fallen leaves for as long as one month. Wet leaves and high humidity will trigger sporulation overnight. When the sun comes up, leaves start to dry, and spores are released. Most spores spread by wind and infect new leaves before noon. Six hours of constant leaf wetness is enough for spores of downy mildew fungi.

These can be summarised as:

1. Susceptible host or varieties.
2. Virulent pathogen that has ability to infect.
3. Conducive environmental conditions
4. Period that the conducive environmental condition prevails.

### Source of infection:

- a) Infected leaves, sepals, flower buds and stems produce oospores
- b) Dormant mycelia in stems
- c) Sporangia production
- d) Dried fallen leaves

For many Downy mildew species, the sporangia are produced in the evening and released into the air in the morning. They are then spread within the green houses via moist air currents, fingers, contaminated

tools or equipments and clothings.

### The factors which favour the downy mildew and its quick spread are:

- Type of greenhouse
- Crop type and density
- Drip irrigation
- Nutrition status
- Human activity; pruning, scouting, spraying, harvesting etc.

### Symptoms

Downy mildew symptoms on rose include lesions on the leaves, stems, and flowers. Leaves have reddish black spots that are angular, tan spots with a very small amount of white crystalline sporulation on leaf underside. The leaves develop purplish red to dark brown irregular spots or blotches, which might be mistaken for spray burns or possibly black spot. Advanced infections will have yellowing of leaves with brown necrotic areas and noticeable leaf abscission. Severe defoliation may occur as a result of infection. The symptoms are suggestive of chemical injury or possibly nutrient stress. The downy mildew fungus forms a downy mass of spores on the underside of leaf lesions.

### Management:

#### 1. Cultural:

- Eliminate conditions that favor leaf wetness early in the day since this condition is critical for downy mildew development.

The spore release and movement commonly occurs in the morning.

- Adequately spacing plants to promote air circulation and allow wet plants to dry rapidly
- Prune plants to keep them aerated and reduce the RH to <85
- Avoid wide temperature fluctuations that may lead to condensation (diurnal range).
- Greenhouse curtains management
- Destroy rose debris from previous crops — spores can overwinter in leaves and canes, then the downy mildew can attack new plants.
- Even though fans might move spores, you should use them along with venting to reduce humidity and leaf wetness
- Hungry plants are more susceptible to downy mildew. Maintain a balanced fertility program to protect your crops
- Use resistant varieties for low maintenance plantings

#### 2. Sanitation:

- Remove plant debris.
- Remove infected plants as soon as you discover them since the pathogen can reproduce several times a season, potentially causing a devastating outbreak.

#### 3. Chemical control:

Choosing the most effective fungicides to prevent or eradicate rose downy mildew can be tough. Downy mildew requires a well-managed chemical spray program starting early with a rotation of chemicals for prevention. Fungicides for use against downy mildew can be categorized as preventive, early or late curative products.



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### From Page 29

The disease also overwinters in the crop that was infected in the previous season.



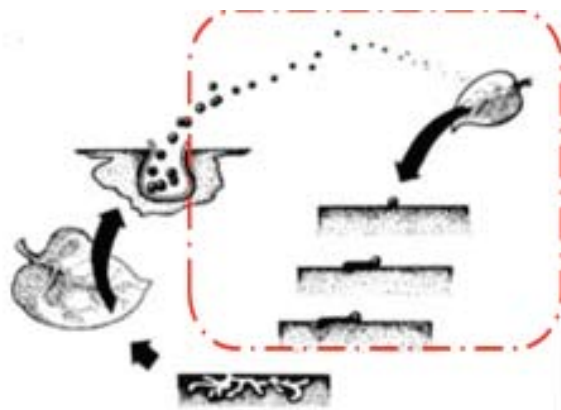
The fungus may overwinter in stems as dormant mycelia without oospores as shown alongside. This is the primary inoculum of the disease and upon reaching the favourable conditions, the disease infects new stems. This can be controlled through early drenching of Previcur Energy.

The preventive products e.g. Antracol must be applied before an infection period begins. New growth following application will not be protected.

Early curative products e.g. Infinito, work against spore germination, sporangia elongation and penetration.

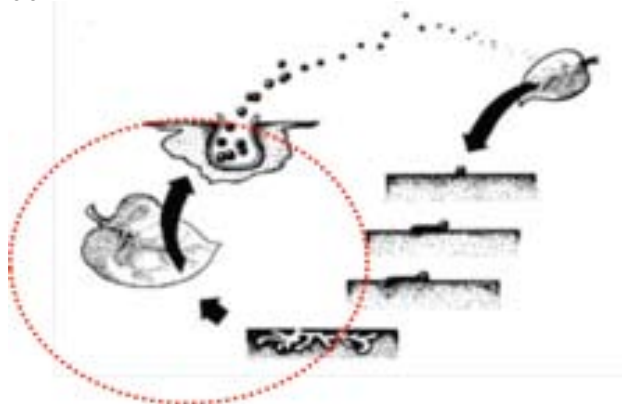
Late curative products" e.g. Verita and melody duo, deal with intracellular infection level (by this time symptoms are visible to the eye)

- Early curative products that work against spore germination, sporangia elongation and penetration as illustrated below,



"The leaves develop purplish red to dark brown irregular spots or blotches, which might be mistaken for spray burns or possibly black spot. Advanced infections will have yellowing of leaves with brown necrotic areas and noticeable leaf abscission."

- Late curative products" that deal with intra- cellular infection level (by this time symptoms are visible to the eye) These late curative products deal with stages like Cyst germination, mycelium growth as illustrated below in the circle.



### Summary

- Chemical compounds can only prevent spread to other plants
- Damage to the Infected plants cannot be reversed and must partially or completely be removed and destroyed
- Consider mode of action to fit with integrated resistance management (IRM)
- Combine protectant and curative activity



## Kenya Pushes for Direct Cut Flower Sales to Qatar

**K**enya's private sector is proposing to sell flowers directly to Qatar as part of efforts to boost trade relations with the Middle East country.

The push for the flower exports to the Middle East was one of the proposals that officials put on the table during the Kenya-Qatar trade and investment forum.

The forum, organised by Qatar Development Bank led by its executive director for export development and promotion Hamad Salem Mejegheer, seeks to increase bilateral trade between the two countries currently estimated at Sh4.1 billion.

"Kenya attaches great importance to this event, given our status as a leading service destination.

"We want to have direct flower auction to Doha, which is four hours from here," said Ms Fatma Elmaavy, second vice president of the Kenya National Chamber of Commerce and Investment.

The Netherlands serves as the largest export destination for Kenyan flowers followed by Britain, which also sources flowers from Ethiopia and South America.

Officials said Kenya's cut flowers export could benefit from Qatar



Investment Authority.

The co-operation between Kenya and Qatari is also expected to attract infrastructure development initiatives on renewable energy development, healthcare, security and high technologies.

Airways' direct flight to Doha currently operated 25 times a week.

"We are inviting Qatari companies and investors to increase foreign direct investments in Kenya and raise export programme," said Pius Rotich, investment promotion and business development services general manager at Kenya

"This matchmaking event is after a six-month study done in the Kenyan market and business. Qatar is looking for business partners, especially contractors and distributors to work with close to 30 companies," said Mr Mejegheer.

A similar forum is expected to be conducted in Doha, said Mr Rotich.



The push for the flower exports to the Middle East was one of the proposals that officials put on the table during the Kenya-Qatar trade and investment forum.

# Green, Great, Gorgeous! Excellent Mood at IPM ESSEN 2020 More Visitors and Higher Internationality

**T**he 38th International Plant Fair IPM ESSEN is looking back on four very successful days at the fair: A total of 1,538 exhibitors from 46 countries presented their innovative products and services in the Plants, Technology, Floristry and Garden Features areas. Messe Essen was once more the most important meeting place of the worldwide green sector. Over 54,000 (in 2019: 52,800) visitors from over 100 countries obtained information about trends and ordered goods for the coming season.

More than ever, climate change and sustainability were the dominant subjects at the world's leading fair for horticulture. "In the context of the climate discussion, horticulture gained enormous relevance and ensured an enthusiastic mood in the fair halls. At IPM ESSEN 2020, the green sector demonstrated its innovative spirit and its performance in an impressive way," summarized Oliver P. Kuhrt, CEO of Messe Essen.

Already in 2019, the exhibitors stated that the subjects of sustainability and climate change will exert the biggest influences on the sector in the future. What could already be seen in many places last year was omnipresent at this year's IPM ESSEN: No matter whether environmentally friendly packaging, climate-tolerant new breeds, insect-friendly plants for the promotion of biodiversity, air-cleaning green plants, planter boxes with integrated water reservoirs or peat substitutes - international horticulture showed its innovative power in an impressive form. Also in the Technology

area, emphasis was placed on energy-efficient production procedures and pioneering digital technologies.

The Federal Agriculture Minister, Julia Klöckner, who festively opened IPM ESSEN found words of praise for the sector: "Horticulture here in Germany exhibits a high degree of innovation and the businesses find and occupy niches in this way. And they answer questions about the future. For example, when it is a matter of more resource or climate protection."

## Turnover Pluses of Flowers and Plants

The consumers are becoming increasingly aware that living greenery is important for people, animals and the environment. At the same time, plants are ever more advancing to become lifestyle products. In a fast-moving and digital world, the garden is becoming a calming feel-good oasis. In total, the Germans spent Euro 8.9 billion on flowers and plants last year - a plus of 2.7 percent compared with the previous year and the highest value since 2011.

Within the framework of IPM ESSEN 2020, the Central Horticultural Association (ZVG) announced that the per-capita expenditure had risen from Euro 105 to Euro 108. "Anybody who wants biodiversity cannot ignore horticulture," the ZVG President, Jürgen Mertz, emphasized in his opening speech. "With perennial, woody, bedding and balcony plants, the sector is offering an enormous diversity and insect food.

However, insect protection depends not only on the businesses but also on



the consumer. That is a big chance for the sector." Mertz sees evident upward potential with regard to the non-private consumption.

Municipalities are being confronted with the challenge of making cities greener. Here, woody plant ranges viable for the future are in particular demand. The fact that there is a great need for information was illustrated by the lively participation in the seminar







entitled “Organizing Sustainability in the Municipality”. Attention focused on reports from the practice of open land planning. During a subsequent tour of the fair, future trees were introduced to the participants. The information event was organized by the foundation called THE GREEN CITY and the Federation of German Nurseries and took place within the framework of the EU project entitled “Green Cities for a Sustainable Europe”.

#### **Partner Country France Showed the Diversity of French Horticulture**

France is also supporting the sustainable project of the community of states. The “Grande Nation” presented itself as the partner country of IPM ESSEN. Breeders and young plant producers in Hall 6 and nurseries in Hall 7 showed the diverse spectrum of French horticulture. Some of the best-known and most distinctive plant specialties produced by the country are roses, fruit trees, rhododendrons, camellias, hydrangeas, cyclamens, chrysanthemums, lavenders, alstroemeria and dahlias.

“VAL’HOR, the umbrella trade association of the French horticultural industry, feels honored to have been the partner country of IPM ESSEN 2020. This partnership was a fantastic opportunity to present our French breeders, their sense of quality and innovation as well as our ‘French Touch’. Our credo that ‘Plants Are Vital’ coincides with the zeitgeist and will certainly become ever more applicable in the future. IPM ESSEN is doubtlessly the internationally leading fair and the ideal platform in order to meet all the protagonists in our sector shortly before the beginning of the season.

#### **IPM Discovery Center Presented Heroes of the Green Sector**

“We must again be proud of what we do.” In the IPM Discovery Center in Hall 7, the trend scout Romeo Sommers displayed the heroes of the green sector in the form of smart POS concepts. The presentations in the “Garden Center of the Future” were orientated to the latest trends and took account of findings about the purchasing

behavior. In addition to subjects such as online services and value added by new breeds, attention focused on innovative recycling systems and sustainability.

#### **Green City: Meeting Place of the Green Associations**

Hall 1A was again transformed into the Green City. While the Horticultural Info Center offered advice on all horticultural questions such as plant protection and the plant passport, the Teaching Show highlighted the change in the green sector and the Innovation Showcase presented the most innovative plant novelties (including a peanut for beds and balconies), the trade visitors to the FDF World experienced live shows with international floral designers in a class of their own, open workshops and inspiring showrooms about the latest interior trends called “street savage”, “blended culture” and “inner retreat”.

In the first round of the FDF Flower Battle on January 29, the master florist Josef Dirr from Baden-Württemberg convinced the public with spontaneous off-the-cuff floristry and was chosen as the winner. During the showdown on Friday, Maria Dmitrovich from the State Vocational College for Flower Art in Weißenstephan was able to decide the Flower Battle in her favor. The trainee Luisa König from Blumenhaus am Hofgarten, Düsseldorf secured the coveted IPM Fair Cup.

#### **Increased Internationality and More Decision Takers**

The proportion of foreign visitors was over 40 percent this year. In 2019, 38 percent of the guests at the fair traveled to the Ruhr metropolis from abroad. In this respect, it was possible to extend the proportion of decision takers. Over 72 percent of the visitors (in 2019: 69 percent) had purchasing and procurement powers.



# The Kenyan Flower Industry Sustainability On the Path to

*It is therefore crucial that the budding flower market is growing not just in terms of quantity but also in terms of quality.*

**T**he soil in the Kenyan Rift Valley is known for being particularly fertile. The rift owes this fertility to two tectonic plates that split many million years ago and left behind plenty of rich volcanic rock. Lake Naivasha is the highest lake in this vast trench. The first flower farm settled on its shore in 1982 (Deutsche Welle, 2017). Not only the soil and the fresh water but also the proximity to the equator, the sunny days and the cool nights provide an optimal climate in which flowers grow.

## Kenyan Flowers: A growing Market

Today there are about 220 flower farms in Kenya, majority of them are located near Lake Naivasha. Flowers have become an important economic sector and, along with tea, one of the country's key exports. After the Netherlands, Colombia and Ecuador, Kenya is the fourth largest exporter of flowers in the world: every third flower sold in Germany comes from this East African country.

The flower business has flourished in Kenya, creating a lot of jobs as well as a new source of income for the population. "We employ more than 150,000 people directly," says Clement Tulezi of the Kenya Flower Council, "and probably around half a million people in the supply sector".

Thriving industries are good for a country's economic development. Yet, when industries thrive at the expense of local ecosystems and the environment this poses a long-term threat to all stakeholders. It is therefore crucial that the budding flower market is growing not just in terms of quantity but also in terms of quality.



Mr. Clement Tulezi CEO Kenya Flower Council

**"The flower business has flourished in Kenya, creating a lot of jobs as well as a new source of income for the population."**

### Lake Naivasha and the Flower Boom

A few years ago, Lake Naivasha was in danger of nearly drying up. Many farms fed the lake water directly into their greenhouses. After satisfying their high water needs, the water – now polluted with nitrate and pesticides – was pumped back into the lake. The impact on the ecosystems in and around the lake was great: both flora and fauna suffered from the poor water quality and sinking water levels.

Since then, most farms have undertaken efforts to reduce their strain on resources and have switched to closed water cycles. Doing so has allowed water levels to rise again and the situation has improved



**“After the Netherlands, Colombia and Ecuador, Kenya is the fourth largest exporter of flowers in the world: every third flower sold in Germany comes from this East African country.”**



significantly. However, there is still a lot of room for improvement when it comes to environmental protection.

### Fertile Soil for Sustainable Flowers

A low ecological footprint and happy employees are the recipe for success to the sector. When numerous companies switched to solar power, this was just one of many steps they took towards sustainability. Most of the farms have been committed to both people and the planet for years.

### An Eye for the Environment

#### Chemicals

In order to minimise their impact on the environment, farms are committed to pursuing the greenest and most environmentally friendly approach possible. In order to do so, they have adopted the idea of Integrated Pest Management (IPM) and Integrated Crop Management (ICM). As such, pesticides are only used during the stages of growth, when the plants are at their most vulnerable and susceptible to disease and pest. Outside of this period, they use the most environmentally

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friendly biological weapon to fight off pests: insects. These biological agents predate on the harmful pests that affect the flowers, significantly reducing the need for chemicals.

Through this synergetic combination of chemical and natural agents, the two companies comply with all EU regulations on chemicals and pesticides. In particular, they avoid substances that are particularly harmful to pollinators like the bumblebee. Moreover, they avoid chemicals that will linger for a prolonged length of time, ensuring no residue enters the food chain. They also exclude chemicals that can affect the aquatic life, the ozone layer or mammalian life.

### Water Management

Saving and recycling water is part of their ideology: A good water management system is not only ecologically responsible but also

economically advantageous.

At some farms, a reverse osmosis machine cleans used water through multimedia filters and UV sterilisation. This closed irrigation system ensures that 100 % of the water is reused. Any water that is not absorbed by the flowers, it is simply fed back into the machine and recycled.

Any other wastewater, for example, from the cleaning of the packing house or office, ends up directly in the farm's own wetland. The wetland not only purifies the water and releases it back into the environment, but also serves as a sanctuary for many bird and fish species.

In addition to a closed water circuit, some farms have also installed a water collection system to allow rainwater to flow into the irrigation system.

### Sustainability

Members of Kenya Flower Council,

follow the Global GAP and are rigorously audited as a result. External independent auditors regularly visit the farms to verify that they comply with strict environmental and chemical regulations and that their health and social policies meet the highest standards.

In addition, some farms are MPS certified. MPS is a worldwide standard in the horticulture sector that uses a rating system to indicate how environmentally friendly a company's production processes are. Most of the farms have received the highest rating – MPS-A – for environmental responsibility in agriculture, as well as the MPS-SQ label for fair working conditions. In the industry, an MPS certificate has the same status as the FairTrade label and is recognised and valued by European traders and buyers.

### Fair Flowers and Happy Employees

The physical and mental wellbeing of employees lie entirely in their hands of the farms. Next to fair wages, additional benefits are important in order to create a healthy and positive work environment. For example, some employees have access to a company nurse and clinic. Regular training and education is also provided.







Our Knowledge, Your Success.

# NEUDOSAN

*Active Ingredient: 515 g/l potassium salts of natural fatty acids*

Liquid insecticide to control sucking insects and spider mites on ornamental plants, vegetables and fruits.

Pest	Rate per Ha	Application Timing
Whiteflies, Thrips, Aphids, Spidermites	3 - 5 L/Ha	Apply at the first sighting of infestation; ensure full coverage of the crop. Repeat at 14 days intervals if required.

## Mode of Action

After spraying with Neudosan, insects quickly die. The active ingredient disrupts the cell structure of soft-bodied insects causing the cell contents to leak out.

The pests dehydrate in the spray liquid. It also damages the respiratory organs. In contrast to insecticides, which attack the nervous system of insects, the dead pest remains attached to the leaves for a short while before they wither and drop off.



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# How Pest and Disease Mapping Makes a Difference To Yield and Cost Control

“ Dr Lisbeth Riis, founder and CEO at Scarab Solutions, has explained how the cut flower industry can significantly benefit by replicating the principles of digital mapping of pests and diseases to the plants in their greenhouses. Using satellites, GPS tracking and mapping software to create Geographic Information Systems, very detailed maps were produced from the data collected.”



Pest and disease mapping in any environment has far-reaching effects. Thirty years ago, wild poliovirus was present in more than 125 countries and paralysed 350,000 people every year, primarily young children. Now incredibly targeted tracking and mapping efforts, combined with a global immunisation program by Global Polio Eradication Initiative (GPEI), have reduced the number of cases by more than 99 per cent, saving more than 13 million children from paralysis.

## **Lessons learned from human diseases can be applied to horticulture**

It seems that while these advanced techniques are now prevalent for human diseases, not enough has changed in the cut flower greenhouses in Africa and Latin America, where a large

amount of the world's cut flowers are grown. Mapping of pests and diseases in horticulture is still often a manual, inaccurate and inefficient process relying on paper-based analysis and individual knowledge.

Typical farmers expect to lose five to 10 per cent of yield to pest and diseases, which is why effective control can greatly increase the number of plants sent for harvest in the first place. Not only do they benefit in terms of the total yield—but they can also better focus staff and resources on the farm and even limit wastage of pesticides and biological control agents.

## **Manual data analysis quickly becomes unfeasible**

With cut flower growing in such a competitive market, gaining a

differentiating advantage is crucial. To manage pests and diseases, farms use a team of scouts to collect data on many hectares of greenhouses. But the same manual methods are being used to measure the effectiveness of pesticide spraying and coverage once a pest or disease problem has been found.

Using these manual processes to analyse data is complex enough in one greenhouse—let alone 20 or more, all of which will have their own unique factors impacting pest and disease control such as temperature, moisture and risk of physical damage.

Again, this is where useful parallels can be drawn with the medical world. In Nigeria, one of the three remaining countries facing Polio, teams would



go from village to village in remote, rural regions of the countryside administering the polio vaccination—but would still rely on hand-drawn memory maps to record that data. People running the global immunisation program soon realised more effective mapping would help track and eradicate the disease.

#### **Advanced mapping and analytical tools now available**

Using satellites, GPS tracking and mapping software to create Geographic Information Systems, very detailed maps were produced from the data collected. Using this critical geospatial information, administrators could now see a more holistic picture showing where the outbreaks of Polio were, which villages were missed and the number of teams that had to be deployed to contain it. The same is true for tracking the effect of pests and diseases for cut flower growers.

Advanced mapping and analytics tools are now available to digitise a large portion of pest and disease mapping, tracking and

control—changing how the world targets crop pests and disease. It is the analysis stage where mapping can unlock true value—monitoring scout effectiveness, measuring pests and disease outbreaks and gauging intervention success.

#### **Three major benefits across the farm: Reduced Crop Losses**

A digital GPS-based map will present a clear basis for problem shooting by correctly mapping out the extent of pests and diseases in an individual greenhouse. Take a disease such as Downy Mildew for example—which occurs in moist and poorly ventilated conditions. Firstly, early intervention from effective scouting can pinpoint the affected plants. By using scouting data to digitally map the greenhouse, farm managers can see the pattern of activity visually represented.

One of the cases witnessed by Scarab agronomists was the presence of a small amount of Downy Mildew in only some spots at the end of some rose beds in a particular greenhouse. On initial review, the

farm manager was completely unaware to the presence to the disease in the house, but on inspection, it was found that poorly constructed downpipes spilled over water and caused the ideal moist conditions for this disease out of reach of the manager's eyesight.

This is where effective decision-making comes in. If farm managers did not have this map, then things could easily get worse for them. They could run the risk of the disease spreading to other plants, with potentially catastrophic impact to total yield. Instead they can react accordingly—even putting preventative measures in the form of quality control of the farm's works departments to protect plants from being at risk in the same way in the future.

Ecuadorian grower Naranjo Roses implemented a mapping system to manage Powdery Mildew, Head Botrytis and Downy Mildew—in a single year it managed to boost its number of flowers available for export by 7.5 per cent.

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#### Improved pesticide and biological control

Another key area where effective mapping pays dividends is in the deployment of pesticide and biological control.

As highlighted earlier, all greenhouse environments are slightly different—so pest and disease presence and proliferation will vary for each and every one. So, using the same volume and coverage of pesticide spraying across them all makes no sense. With an effective map, farm managers can target spraying to specific areas in specified rows, minimising the volume of pesticide used across the entire farm.

The same applies to biological control. Let's take the presence of spider mites for example. There is a significant cost associated with the deployment of predatory mites. Excellent scouting and mapping of the locations within a greenhouse allow the spatially targeted release of the predatory mites, specifically where there are spider mites and insufficient numbers of predators. This avoids wasting predatory mites where there are no spider mites, or where there are already sufficient numbers of predators.

This level of excellent mapping, combined with an analytical tool,

provides a cornerstone for biological control. One such biological control program at Equinox Horticulture near Mount Kenya in East Africa has benefited significantly from the improved information and analysis delivered by this technology. The company reduced its requirements for *Phytoseiulus persimilis* (a predatory mite) by 60-90 per cent, depending the season.

#### Better farm management – from the top down

The scale of a typical cut flower farm makes it naturally difficult to manage on an overall level—paper-based reporting makes it difficult to gain full visibility into pest and disease levels. Farm management can be revolutionised by using software to analyse these huge data sets and graphically represent an accurate view of every greenhouse. This software is available and is being used to great effect in many cut flower farms across the world – in fact, the Scarab Precision system, for example, is already implemented with 25 per cent of rose producers in Latin America and East Africa. Here's how it works.

Every full scouting cycle from each and every greenhouse should be completed one to two times per week—tracking a whole range of pest

and disease information. When the data is logged into a mobile device it becomes very easy to build an overall picture of the performance of the whole farm.

Daily reports containing key information are being delivered directly to the farm or crop protection manager—such as Spider mite presence, Downy Mildew, Powdery Mildew, Head Botrytis, Thrips and damage and much more. Not only does this allow farm or crop managers to track performance daily, but they can also dig deeper into particular focus areas dating back months or years.

They can then make data-driven decisions to focus scouts and farm workers on target areas and report accurate and up-to-date management information to farm owners. If they are working with an experienced solution provider who owns a wide enough dataset, they can even anonymously track their performance against the average data for other farms in their area.

#### Precise mapping puts farms in control of pests and diseases

It's time for the cut flower community to allow digital mapping solutions to take their operations to the next level. Those who don't act quickly risk being left behind, leaving money on the table, owners frustrated and a workforce unguided. When it comes to yield and cost control, we all know that just a few percentage points either way can make a huge difference to a farm's bottom line.









# Flower Expo China postponed

**D**ue to the impact of the 2019-CoV, the 2020 China International Floriculture & Horticulture Trade Fair (Flower Expo China) will be rescheduled for a new date and venue.

The event was originally slated for March 16th-18th, 2020 at Guangzhou International Sourcing Center, and is now moved to May 11th-13th, 2020 at Hall 3 - Hall 4 at Guangzhou Poly World Trade Center Expo.

## Coronavirus impacts international flower trade

“Gesundheit startet hier!” That’s what the disinfection gel dispensers read at the IPM Essen last week. The Chinese hall was empty during the Fruit Logistica show in Berlin. The effects of the coronavirus outbreak in the industry though are more broad.

Since the Chinese holidays are extended and many flights are canceled, projects will be delayed. Due to the

coronavirus the trade at the markets is shut down as well: with no logistics and no trade on the markets, the market is silent. We spoke to several people in the industry to learn more about the situation and the impact on the international horti- and floriculture industry - particularly now, in the run-up to Valentine’s Day.

## Export figures down

The health of the people is the priority and therefore, the Chinese government has taken actions to minimize the spread of the virus. Some of these also affect business. “Due to official orders to close public gatherings and to keep people’s transit/ movements as low

as possible, most of our clients have preferred to minimize their business until further

notice. Most of their markets are frozen (zero movement)”, explains Ecuadorian flower grower Eduardo Chiriboga of Blawesomes.

As a result export figures to this country are down, also in flowers. “China’s purchases for Valentine’s Day as well as for Chinese New Year, were down in significant numbers. Because both events were around the same time, prior to the outbreak everybody was expecting great sales. As a matter of fact, gypsophila growers had sold very interesting figures. At the end however, we ended up with great cancellations in roses as well as in gypsophila. Our objective is to redirect that product to our other markets”, Chiriboga says.

Colombian flower grower Pablo Bazzani of Plazoleta says that at the moment their sales have decreased by 40% due to preventive quarantine measurements in flower and plant markets, since they are nearby meat and animal markets.

It becomes clear that all growers exporting to China are affected. Ravi Patel of Subati Group, a Kenyan rose farm, also told us that all





# due to COVID-19 virus



## China International Floriculture & Horticulture Trade Fair (Flower Expo China)

May 11<sup>th</sup> – 13<sup>th</sup>, 2020

Guangzhou Poly World Trade Center Expo

Valentine's Day orders have been cancelled until further notice.

But the Chinese are the ones who are affected the most. "It is primarily a problem for our clients", says Paul Hoogenboom, Director of Holey Flower, a Dutch flower exporter with offices in China. "A bit of our turnover will be lost, but for them, the situation is worse. They cannot sell anything as the logistics are being frozen."

### Flights cancelled

The growers understand the situation that China is going through now and most of them are in constant contact with their clients. "You can feel the clients' concerns. First shops were closed and now that they are open again, many flights (more than 25,000 flights, Bloomberg reported on Monday) are cancelled. Therefore, orders are delayed or don't arrive at all, because they are cancelled by cargo agencies", Garcia says. For Bazzani, his customers are mostly located in Beijing, Shanghai,

and Guangzhou. "Even though the worst situation is in the Hubei area, all of China is affected by the precautionary measures taken by the government."

### Challenge - how to direct production?

How to continue? Chiriboga: "The lost sales are lost, there is not much you can do about that. However,

**"China's purchases for Valentine's Day as well as for Chinese New Year, were down in significant numbers. Because both events were around the same time, prior to the outbreak everybody was expecting great sales."**

the challenge now is where to redirect the production. We have been able to redirect most of our production, as well as other growers. This created an oversupply, something that's affecting everybody."

### will China start buying again?

Even though everyone is hoping a solution will be found soon, nobody really knows when trade will get back to normal. "No one knows when China will start buying again. Business-wise, I think that's the worst of what is happening", Chiriboga says.

### Trade shows

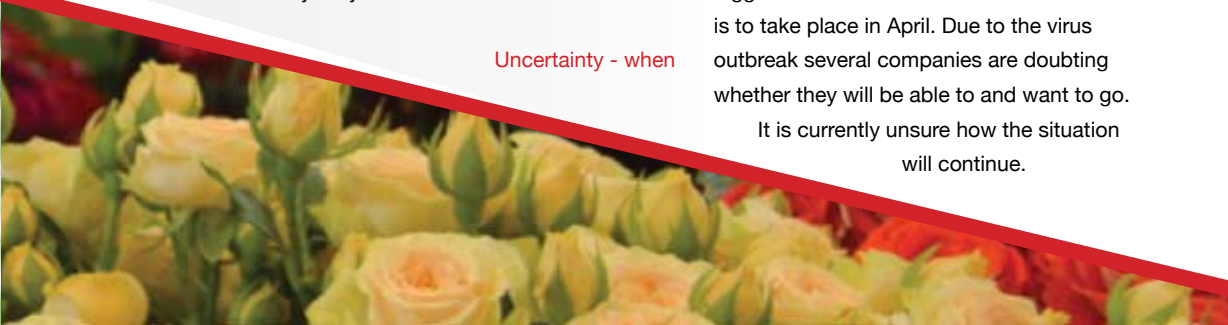
The horticultural industry is an industry of exhibitions, and many suppliers travel all over. At the IPM there were hardly any Chinese visitors - not only because of the coronavirus and travel restrictions, but also due to the Chinese New Year.

"Due to the new efforts from the government to control the virus, Vietnam did not issue (business) visas anymore to Chinese citizens, therefore they did not attend the HortEx Vietnam." Other measures will be taken, including hand disinfectors and a higher frequency of disinfection of the exhibition hall.

The situation might be different for the Hortiflorexpo IPM Beijing. This show is the biggest horticultural show in China and is to take place in April. Due to the virus outbreak several companies are doubting whether they will be able to and want to go.

It is currently unsure how the situation will continue.

### Uncertainty - when



# Biocontrol in the greenhouse

**Q: What's the biggest issue you're seeing in how ornamentals growers are using biologicals in the greenhouse these days?**

**A:** Pesticide compatibility with beneficials is a big thing to be watching because we're getting more information about this. There's a lot of research happening, especially with microbials. We're getting more microbial products on the market so understanding their interactions with macro beneficials and how they can all work together is something growers are very interested in these days.

**Q: You're in greenhouses all over the country all the time. What pests do you have your eye on?**

**A:** It's going to be very interesting. We have no idea what's going to happen to the pests because we've had such a climatic

people off-guard. Keep an eye out for them, and just aphids in general.

**Q: Biocontrol use has been fairly widespread in ornamentals for a while now, but it's playing a really important role in other greenhouse crops. What kind of stuff will you be covering?**

**A:** What I think is so great about this track is we're going to be hearing firsthand from farmers who have lived through this in the industry. They have learned the value of understanding the science and making decisions based on that. They have definitely gone down that road. They didn't always know how to vet information in the beginning, but over time they are really open to learning more, developing a healthy skepticism about the tools and claims that are sometimes out there. Their personal experiences are going to make this a

Biocontrol — whether with biopesticide products or the use of beneficial insects — is an important element in greenhouse production, regardless of the crop you're growing. But even as it becomes more mainstream in the greenhouse, this segment of pest management continues to develop at a rapid pace, with new innovations happening every season. Suzanne Wainwright Evans, Owner of Buglady Consulting, has been at the forefront of biocontrol adoption in the greenhouse for nearly three decades. As a prelude to the upcoming Biocontrols USA Conference & Expo, where she'll be speaking again in 2020, we caught up with her to talk about some of the pressing issues in biological control in the greenhouse.

how you can buy media plates online for microbial testing that are all ready to go — you don't have to make them yourself. And we'll get into detail on insect collecting.

Unless you went to school for entomology, a lot of times people don't really know how to do that. We'll talk about how you can take great digital photos very affordably.

And there's some great new technology available that doesn't cost a fortune and can give you really valuable information.

For example, there are now small, 1-inch square sensors you can hang in the plant canopy that give you a much more accurate reading of the temperature and humidity where the pests and beneficials live. You can track the information on your phone and be able to know the real environmental conditions in the plant canopy. These kinds of tools are newer to our industry and can help you make much better decisions in your pest management program.

**Source: Greenhouse Grower**



change in much of the country so far. So, I don't know what's going to happen this year. Either the climate change is going to knock a lot of these pests out or it could be that some of them are going to overstay well.

But I think thrips are the ones to watch in ornamentals. We keep seeing them pop up. I think people are so focused on managing downy mildew and botrytis they forget about thrips and they seem to keep creeping up and catching ornamental

**Q: You'll also be teaching a workshop at the end of the show. What are some of the innovative angles you're bringing to that session this year?**

**A:** There's going to be a lot of practical information, from collecting samples and taking photos, to learning how to test microbial products for viability and then applying them correctly.

We are going to get into some of the tools and resources that are available. I will show

## Testing a New Approach to Credit for Productive Use Ag Assets

In 2019, Shell Foundation and the UK Government provided funding and support to Amiran, a leading East African agricultural distributor, so that they could test a new approach to providing appropriate credit to agricultural Small-Medium Enterprises (SMEs) in Kenya.

Agricultural SMEs across Kenya are unable to obtain the financing they need to invest in their farms, due to limited formal credit history and lack of collateral needed to engage with commercial banks. Lack of finance brings challenges of productivity and social mobility.

Project Madaraka (Swahili for freedom or independence), a new business unit at



Amiran Kenya, established a credit sales including in its offering both lower ticket agricultural equipment and input packages (up to \$2,000) and high-ticket productive use assets (typically over \$5,000).

The project aimed to answer three key questions:

- What are the key barriers that

currently prevent penetration of high-ticket productive assets into SME Agribusinesses?

- What is the right business model to deliver finance for high-ticket, high-risk agricultural productive assets, including those harnessing renewable energy, from a variety of manufacturers to challenging customers in a scalable and sustainable way?

- What characteristics do prospective customers need for them to be most suitable for credit?

This learning report, produced by the manager of Project Madaraka, Yaron Cohen, presents early takeaways from the pilot, including:

- Recommendations for how to rethink serving the agricultural SME customer group, including the need for innovation in credit assessment, the potential of packaging projects rather than products, and the value proposition for customers;
- Outstanding barriers of last mile distribution, communication between manufacturers and SMEs, and available data;
- The potential to scale the pilot through two sector-wide initiatives.

## Boom to Hass Avocado Farmers in Kenya as Export to Europe Sums with High Prices

Kenya's avocado exports have resumed with high prices at the market coming as a windfall for farmers who had been starved of cash for the past three months.

A four-kilo carton is selling at Sh1,760, which is higher compared to a similar season last year when it was Sh1,100.

Mr. Okisegere said the prices are expected to be better going forward because of high demand the Kenyan Fuerte variety has commanded.

"We are currently the only country in the world with this variety of avocado and that is why the prices are this high," he said. They are exported to Spain, Germany, Russia and the Middle-Eastern

countries.

### Limited Stocks

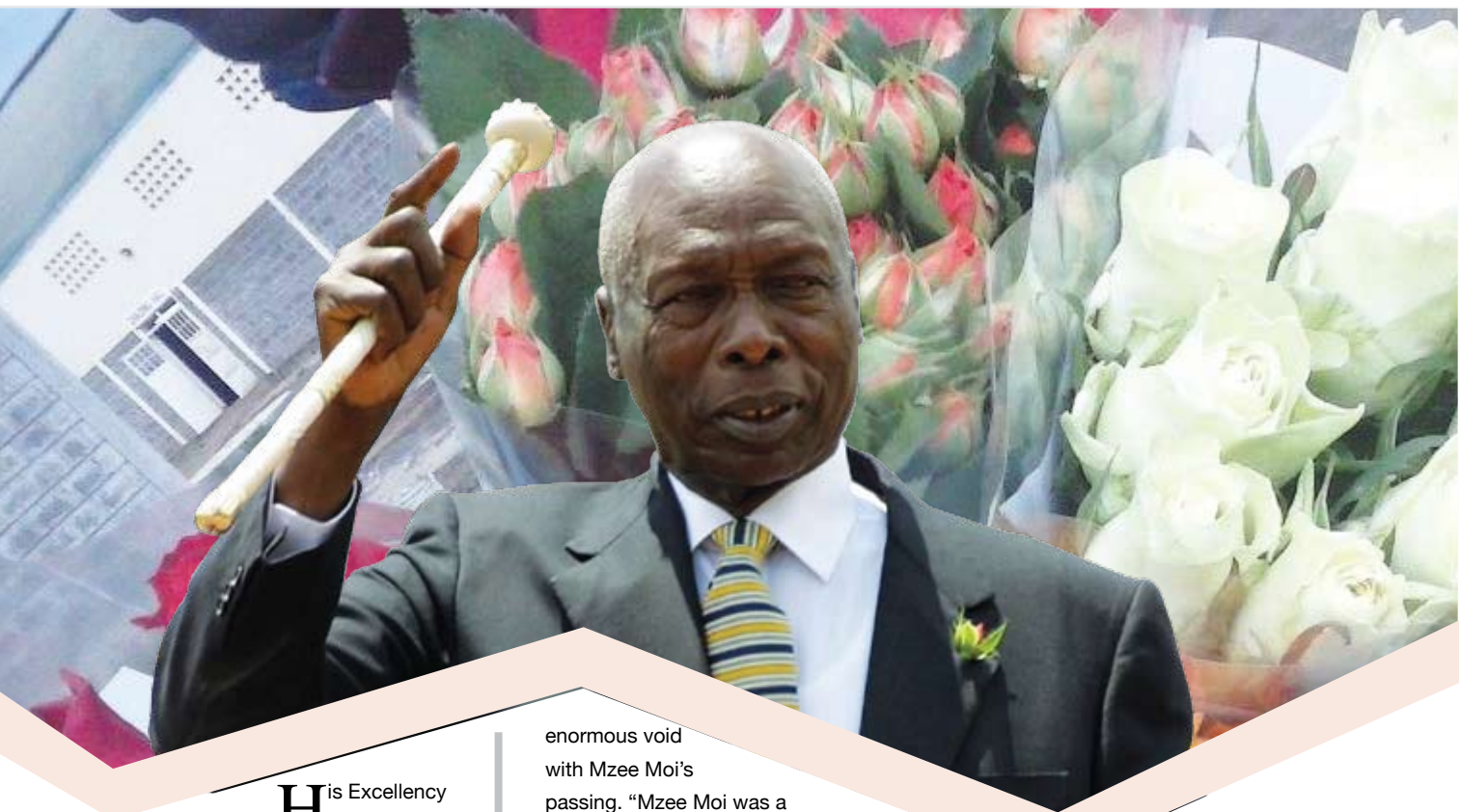
Mr Okisegere said they have also got inquiries from the Far East countries but the stocks are not enough. He, however, said they will consider the Far East orders once the ban on export of Hass variety is lifted.

The directorate of horticulture announced that the ban would be lifted earlier after stakeholders reviewed the maturity.

Head of Horticulture Directorate Bernard Ondanji said: "With the effects of climate change, the fruits can attain maturity either early or later than planned because of varying temperatures and this is what we have witnessed," he said.



# Floral Professionals Mourn an Industry Icon



**H**is Excellency  
Daniel

Toroitich Arap Moi, Farmer number one for those who grew up in 80s and 90s, a flower farmer and chairman to one of the fastest growing group in the sector, former president and crusader for agriculture as a whole, was promoted to glory on Tuesday, February 4, peacefully. He was 95. All the flowers used during the occasion came from his farms. It was a fitting salute to his dedication, not only to his farms, but to the industry he loved.

True be said, the industry lost an international investor the flower industry, an enthusiastic educator, a devoted volunteer and a friend to many.

The Flower industry is but one of many sectors who will feel an

enormous void with Mzee Moi's passing. "Mzee Moi was a prolific contributor of practical, easily relatable and accurate GAPs, both as government policy and as a farmer. In more than 20 years of working close to Mzee Moi's farms, they are professionally run and most of the other farms have benefited immensely from their professionalism. I have also learnt a lot every time I visit them.

In his nearly 30-year tenure in flower farming, Mzee Moi worked with professionals from every segment of the industry and made connections across several continents. For his dedicated service, he midwived the sector to the second highest foreign exchange earner when he was the president. He also opened the sector globally to attract the highest Foreign Director Investors.

News of Mzee Moi's death prompted

Mzee Moi was one of the first black African investors in the flower sector when the industry was still on infancy.

an outpouring of comments from the numerous friends he made during his fruitful career.

"We knew the end was coming — and I am happy his suffering is no longer — but heaven took one of the best from us," said a grower who requested anonymity. "I'm thankful for all I learned from him, not only about flowers but also about life. He will be sorely missed."

"This is a devastating loss for our tight industry," echoed one of his closest buddies in the sector, who met him early

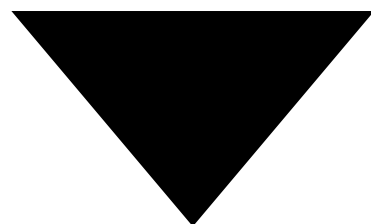
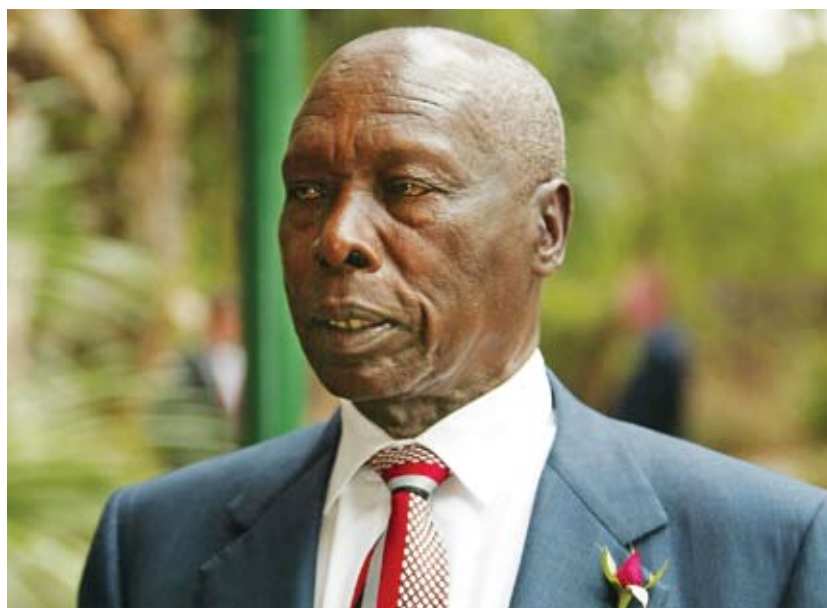
in their life and he went from icon to personal friend.”

“‘Brilliant’ hardly describes his depth and breath of knowledge, which he generously shared,” Sally Kosgei of Zena Roses said. “He was patient with newbies and always had something new to offer experienced growers.”

“Mzee Moi was a tireless worker who knew the backrooms of flower growing better than many investors I knew despite his busy schedule as a

president,” said one of the managers who has worked closer to him. “We often knew Mzee can visit the farm anytime, and then he would be there in the morning, mid-morning and evening when his schedule allowed. He was passionate, smart, easy to talk to and always so helpful,” he said. “Truly a beautiful person.”

“Throughout his career, Mzee Moi projected a laser focus on finding ways to deliver a better flower experience to consumers,” he said.



“Mzee Moi was a tireless worker who knew the backrooms of flower growing better than many investors despite his busy schedule as a president,”

“It’s infrequent that we come across someone with so much passion,” said another grower. “Moi was always digging to get new information and markets that could help the entire industry. We knew we could count on him in addition to his intelligence and ambition, Mzee Moi possessed remarkable wit and kindness, ‘a special combination of traits,’ he said.

Mzee Moi was one of the first black African investors in the flower sector when the industry was still on infancy. By turn of the century, his farms had made a name as some of the first

farms to be run by young African graduate managers among the Asian or European-dominated world of growers.

Mzee Moi showed faith in home grown talents and to date this has never betrayed him and most of the other farms followed his footsteps. Due to his keen eye, attention to detail and success in working across cultures, he created one of the best run group of farms in the sector.

When he left active politics, he retired to the farms which he frequently visited and mingled with the staff discussing choice of varieties, production and marketing. He never tempered with the day to day running but left it to the



professionals he had entrusted the farms to.

Mzee Moi was a strong advocate for the industry, his farms participating on numerous events and attending several exhibitions. They are active with many other industry organizations, such as Kenya Flower Council.

“We lost a valued colleague and a dear friend, Mzee Moi meant a lot to our sector and will be missed greatly worldwide.”

On behalf of growers, clients “and the entire industry,” I say Rest in Peace Farmer No. One. It is a fitting salute to your dedication, not only to your farms, but to the industry you loved.

# Soil-less Technology Set to End Perennial Seed Potato Phortage



**B**eyond the plains of the Aberdare National Park, dry maize plantations dot farms as residents prepare to clear their crops in readiness for the next planting season. After hours on the busy Nyahururu-Nakuru highway, the team arrives at the National Youth Service Tumaini Farm in Nyandarua – one of the biggest potato production units in the country and beyond.

The farm is working on a potato seed production technology, which if fully exploited will make shortage of quality potato seeds a thing of the past. The Sh14.4 million project involves use of aeroponic technology to produce disease-free potato seeds.

The plants are grown in air or misty environment in an enclosed chamber (with no soil involved) offering higher yields per plant at a lower cost in the long run. On the farm, there are three greenhouses under production where the plants are raised under artificial and controlled conditions in special boxes lined with insect-proof mesh. The boxes made of wood are used in the propagation and

production of Shangi and Dutch Robjin potato varieties.

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The cubicles are wrapped with white cellophane and black polythene meant to ‘psyche’ the potatoes to start forming tubers.

“The polythene is supposed to ‘psyche’ potatoes to start forming tubers because once they are exposed to light, they wither while the cellophane is used to aid photosynthesis,” notes Kennedy Nyakango, the commanding officer at the station.

Inside the boxes, roots bearing tubers are suspended in the air and are sprayed with water and a solution of nutrients.

“The mist sprayers ensure the roots remain hydrated and absorb nutrients without having to stay in the soil or water,” says Nyakang’o, adding the plants are sprayed

against early and late blight, aphids and white flies.

Each box lifted a few metres from the ground measuring 20 by 20ft hold at least 36 plantlets each producing between 60 and 70 mini-tubers.

## Offering Technical Support

NYS Tumaini acquire the tissue culture materials from the Kenya Agricultural and Livestock Research Organisation or the Kenya Plant and Health Inspectorate (Kephis), which has been providing diagnostic services and guidance to the farm on seed production.

The plants start producing mini-tubers approximately 30-45 days after planting them inside the greenhouses.

“We start harvesting them at two-and-a-half months with a single plantlet producing about 60-70 mini-tubers per season,” Nyakang’o says adding that harvesting is done continuously.

NYS Tumaini Farm has already been registered as a seed merchant hence can





conserving water and reducing the amount of human labour,” he says.

According to the National Potato Council of Kenya, there is a potato seed demand of 100,000 tonnes annually but the country only produces 5,000 tonnes with Kalro offer 300 tonnes per year.

Kephis, which is offering technical support to the farm, says the rapid multiplication of potatoes will assist the country in achieving food security as well clean potatoes for farmers who re-use their produce. Any official adds that farmers adopting the technology should go through training for chemical handling and safety and phytosanitary standards.

The plants are grown in air or misty environment in an enclosed chamber (with no soil involved) offering higher yields per plant at a lower cost in the long run.

market the certified seeds to farmers. “Since we started in February 15, 2019, we have produced over 280,000 mini-tubers,” notes Nyakang’o, a Jomo Kenyatta University of Agriculture and Technology (JKUAT)-trained agricultural officer.

The clean seeds that are already being distributed to farmers will mitigate the spread of potato diseases such as bacterial wilt, blackleg and potato cyst nematode, according to Nyakang’o, which affects areas that have been grown for a long time.

Aeroponic technology can be used to grow any crops producing tubers such as sweet potatoes and cassava but is mostly appreciated in growing potatoes.

Currently, the farm has over 180,000 certified mini-tubers after selling others. A single mini-tuber sells at Sh15 while a 50 kilogramme sells at Sh5,000.

“The systems are 100 per cent safe and they help the environment by

“ The mist sprayers ensure the roots remain hydrated and absorb nutrients without having to stay in the soil or water, plants are sprayed against early and late blight, aphids and white flies.”





# 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 Chepkemai	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	RaO 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@mauflorea.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@bloomingdalaroses.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

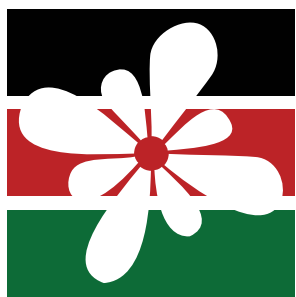
FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Florenza Ltd	Roses	Solai	Yogeesh	0737453768	farm.florenza@megaspingroup.com
Fresh Gold Flowers Ltd	Flowers	Mt. Kenya	John Karimi	0721622294	karimi@freshgoldkenya.co.ke
Gatoka Roses	Roses	Thika	Herman Njuguna	0728 854 844	info@gatokaflowers.com
Golden Tulip	Roses	Olkalao	Umesh Choudhery	0739729658	umesh@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	Olkalao			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	Flowers	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	Linnet	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	oppasobandgar@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@mauflora.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
OI Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Oserian	Flowers	Naivasha	Christine Karambu	0702350689	christine.karambu@oserian.com
Panda Flowers	Roses	Naivasha	Geoffrey Kanyari	0712215419	farm.manager@pandaflowers.co.ke
Panocol International	Roses	Eldoret	Mr. Paul Wekesa	0722748298	paul.wekesa@panocal.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	pjdaveflowers@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	Olنجororok	Jai Prakash	0780785603	production.mp2@primarosaflovers.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@uhuruflovers.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 Remeeus	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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