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Ethylene Damage of Flowers Attributes to Upwards of 30% Flower Loss

Flower industry experts estimate as much as 30% of all flower loss is a direct result of ethylene damage, due to either internal or external sources of exposure. Ethylene, an internal gaseous plant hormone, profoundly influences the growth and development of plants. It acts at trace levels throughout the life of the plant by accelerating wilting, regulating the opening of flowers, and the abscission (or shedding) of leaves and flower petals. Ethylene is produced from essentially all parts of higher plants, including leaves, stems, roots, flowers, fruits, tubers, and seedlings. Its production can also be induced by a variety of external aspects such as mechanical bruising or environmental stresses. Flooding, drought, chilling, wounding, and pathogen attack can induce ethylene formation in the plant. Ethylene produced from external sources such as other flowers, banana-ripening rooms in supermarket distribution warehouses, propane heaters, forklift fumes, bacteria, and even cigarette smoke also can have devastating effects on flowers when exposed.

Cut flower plant responses to ethylene:

- Stimulates leaf and flower biological aging, called "senescence"
- Inhibits stem and shoot growth
- Induces leaf, bud and flower shedding, commonly known as "abscission"
- Stimulates epinasty where the leaf petiole grows out, leaf hangs down and curls into itself
- Induces a rise in respiration in some flowers which causes a release of additional ethylene. This can be the one bad flower in a flower box spoiling the rest phenomenon, affecting the neighboring flowers
- Affects geotropism, the turning or growth movement of the flower stem in response to gravity
- Inhibits stomatal, or pore, closing found in the leaf and stem epidermis that is used for gas exchange, stimulating flower aging



Rose - Flower Aging
Untreated for Ethylene



Rose - Treated for Ethylene



Orchid - Flower Drop
Untreated for Ethylene



Orchid - Treated for Ethylene



Carnation - Inward Rolling of Petals
Untreated for Ethylene



Carnation - Treated for Ethylene

Ethylene will shorten the shelf life of cut flowers and potted plants by accelerating floral senescence and abscission. Flowers and plants that are subjected to stress during shipping, handling, or storage produce ethylene causing a

significant reduction in floral display. Some examples of flower types which are more affected by ethylene damage include rose, orchid, carnation, alstroemeria, stock, delphinium, phlox, and freesia.

Ethylene can cause significant economic losses for florists, markets, suppliers, and growers. Floralife has long been involved in developing ways to inhibit ethylene production in flowers to keep flowers fresher longer, through the commercialized innovation of EthylBloc™ Technology. By inhibiting ethylene sensitivity, flowers don't respond to ethylene produced internally or from external sources, far increasing the quality, freshness, and profits of flowers overall.



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Omang & Amor, Decofresh stand at the 2018 IFTEX. The company won gold in the non perishables category of the best stand design awards

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|| HORTISPORT ||

Growers like Oserian Development Company are taking impressive steps at diversifying operations and investing in infrastructure that is already attracting more foreign direct investment.



Kenya's horticulture industry ahead of Agenda Four

For an industry that employs more than 6 million people while benefitting another 3.5 million more, the horticulture industry has been an agenda setter within the spectrum of the transformative Big Four Agenda being championed by President Uhuru Kenyatta.

And as the sub-sector continues eyeing more export destinations buoyed by growing demand for the unique Kenya flowers, fruits, vegetables, spices and herbs; impressive self-regulation track record, prospects of more jobs and income abound. But beyond employing ordinary Kenyans, the sub sector continues to be among the largest foreign exchange earners having earned the country Sh115 billion in 2017, a 15 per cent jump from the previous year and impressive record over the years. Its GDP contribution was an impressive Ksh 305 billion

This, combined with increased activities geared towards value addition and huge investment by players on sustainable technologies like water harvesting, solar and geothermal energy among others have ensured production of world class produce that continues to blaze the trail in the international arena while attracting requisite investment in the country.

Yet, behind the numbers is a not-so-rosy affair. Take for instance the flower farms that are struggling with a litany of woes that are slamming the brakes on a sub sector the government has always counted on to lift the country to mid-level economic status. Flower growers have complained of exorbitant energy costs, freight charges, unreliable power, delayed VAT refunds and heavy taxation that conspire to make the cost of doing business prohibitively high.

Cost of energy for example, to most of them accounts for up to 40 per cent of their expenses as does freight charges which makes the Kenyan rose, despite competitiveness in the global market, earn less for investors who are reporting shrinking profit margins pushing them to diversification of not shutting down altogether.

The clarion call by industry players to especially government and the relevant authorities, is not to regulate the sector but create a conducive environment across the value chain that ensures fresh produce reaches the export destinations cheaply and at the right time without compromising on quality.

It is impressive to see flower companies like Oserian Development taking impressive steps at diversifying operations and investing in infrastructure that is already attracting more foreign direct investment. It is a landmark development that is positioning the industry and country as an investment hub and living up to the key tenets of the Big Four Agenda. Tapping into the phase two of the Standard Gauge Railway, these new infrastructural developments will go a long way in opening up Naivasha, the flower capital of Kenya, to regional and international markets while easing trade. The government should borrow a leaf from these private players and move ahead in fostering partnerships that take advantage of these major infrastructure projects to woo more investors.

We take this opportunity to also challenge the new board of management at Brand Kenya to step up efforts at positioning the industry, and specifically the brand Kenya flower which, even with little marketing, has won hearts and more markets.

Now being sold to over 60 international destinations and taking the pride of place, the Kenya flower hasn't been received the necessary marketing even on the country's strategic locations like the Jomo Kenyatta International Airport numerous reports have pointed as a favourite transiting hub for international travelers.

To remain globally competitive, even as we seek to realign the industry to the big four agenda, government and private sector must work together to address any pressing problems of vital sectors like horticulture and incentivizing the players. Then and only then will the industry have impetus to respond to government's call for development agenda.


Catherine Riungu

HortiNews is published six times a year by Karuri Ventures Ltd and circulated to personnel in the horticultural industry, foreign missions and Kenya embassies abroad, extension officers in the Ministry of Agriculture, research officers and suppliers of agricultural inputs and services.

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George Onyango a pest scout at Redland Roses using the digital platform in one of the farm's greenhouses

Red Lands Roses goes digital in pest scouting

By BOB KOIGI

In another industry first, Red Lands Roses Ltd has introduced a digital method of pest and disease scouting, the process of assessing flower threats to track crop damage, allowing the farm to accurately monitor pests and diseases trends while informing precise interventions.

Traditionally, pest scouts would move around greenhouses with maps while manually keying in any threats they identified, a laborious process that would usually miss vital details like the concentration and spread of pests. Data was also prone to human error which at times interfered with accuracy.

With the new program that has been developed by the farm with

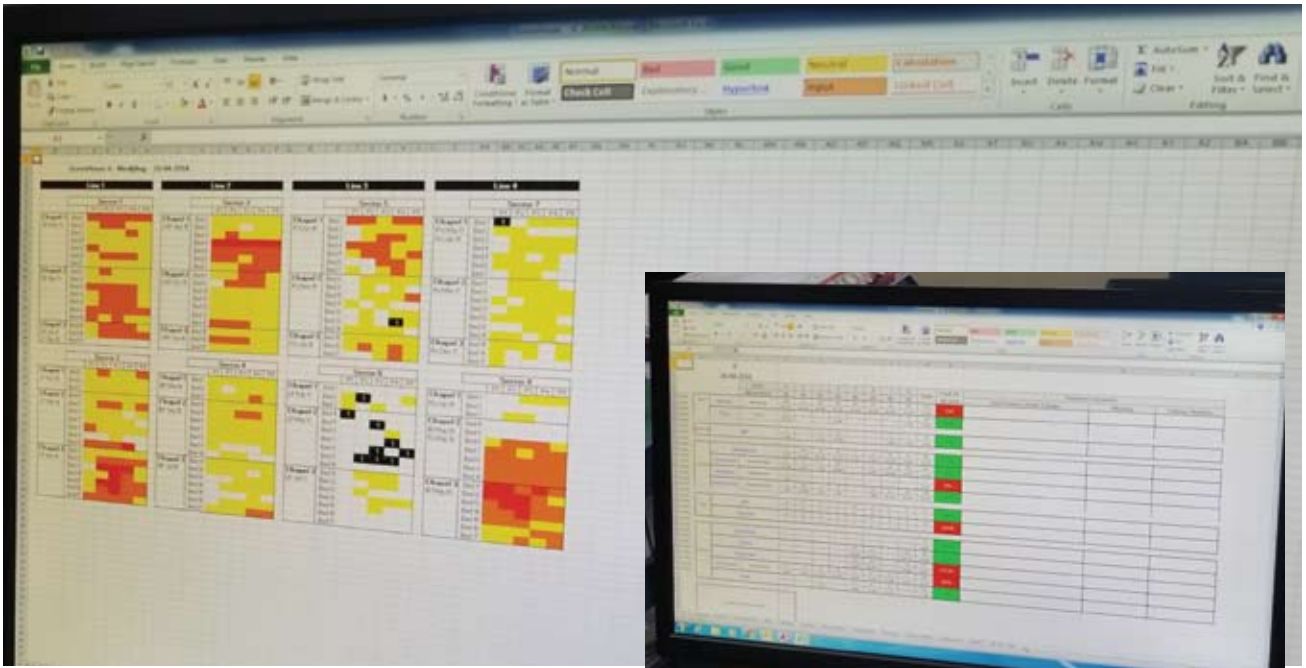
financial assistance from DEG the German Development Bank, pest and disease spreads are monitored at close range and the level of misrepresentation is near nil. "This new technology has allowed unique and dedicated approach to how we tackle pests and diseases, some of the greatest threats to any flower farm.

The program, in-house developed, is able to interpret data on the type of threat, the trend and then generate a report on the specific kind of intervention we need. It has completely transformed the farm's operations and is saving costs and losses," said Stefano Banella the Crop Protection Manager and the man in charge of the program.

Pest scouts are given tablets that has preset data on all the

greenhouses in the farm, each greenhouse is divided into chapels which are further divided into beds with the beds then divided into partitions pointing to the accuracy of the application in identifying pests and diseases.

A partition is a small representative area that allows the scout to record the level of pest or disease infestations in that particular area. Once the scouts identify a threat they key it in the tab from a drop down menu that has a set of the anticipated threats. They then identify the reproduction stage of the pest and the location of the pest in the plant, whether top or bottom. At the end of the day all this data is then downloaded into a server and is consolidated.



It then generates a map that shows the situation in various greenhouses, the level of infestation and the trends compared to previous scouting. On the screen, the data entry personnel can see the severity of each particular greenhouse to attacks. Yellow indicate low level, orange medium and red high alert. With this data, the program is then able to automatically recommend what pesticide to use and calculate the right volume to spray. "In terms of data gathering in the field this process is a bit time consuming compared to the manual one.

That extra time spent gathering this data is priceless in terms of identifying the exact location of these pests and diseases and recommending specific and accurate volumes to fight them. We have had impressive results so far," added Stefano.

Data that was previously recorded on the manual maps has been incorporated into the system. "We have segmented all this data twice per week and we can go back up to two years ago. It is very crucial for us to interpret this information so that it informs us of what to expect going forward and the effectiveness of the

On the screen, the data entry personnel can see the severity of each particular greenhouse to attacks.

measures we have taken or efficacy of certain chemicals.

We are able to analyze what month we had the highest levels of what threat, how has this been consistent in the next year and with such rich data we know what to expect in future," Stefano further said.

For George Onyango who has been pest scouting for years at Red Lands Roses, the new application is godsend. It has allowed him to smoke those tiny fellows from the depth of their hideouts as he says. "For the last five years I have been doing this, I have become so used to the pests. Sometimes I just need to look at a plant and automatically know, even without using a magnifying glass, what the pest or disease is.

This new program and especially the use of tablets to record these threats has been a game changer. It has made our work easier, less

strenuous and we are now seeing lesser pests since the technology was introduced," he said.

Aldric Spindler the Executive Director at the farm agrees saying the investment has been informed by the need to tame the high cost of pests and disease control and ultimately ensure there is minimum damage to flowers. "We have embraced technology heavily and this is one of our flagship tech investments. We are very happy of the results we have seen so far especially considering that this program has been designed by our farm.

It has had a huge implication on our approach to pest control, cutting cost while ensuring we are able to accurately identify threats and ultimately resulting in high quality flowers. We are looking forward to a great experience with the program," he added □

By CATHERINE RIUNGU

Following the exit of long-serving Zimbabwe President Robert Mugabe early in the year, efforts are in top gear to revive the country's horticulture industry whose fortunes dose-dived with the seizure of whites-owned farms in 2000.

The hostile takeover led to the collapse of major horticultural producers such as Kondozi Estate in Manicaland and Marondera's Mitchell & Mitchell, which had a combined \$50 million in annual export sales, being forcibly seized, run down and looted.

However, the bad times could be falling behind as reports from capital Harare reveal the return of the Exporters Flower Growers Association of Zimbabwe (EFGAZ) that is preparing an exhibition in conjunction with HPP in October to officially relaunch the blooming of the once blossoming southern Africa nation's horticulture industry as the strongest pointer yet of the country's resolve to revive the high potential foreign exchange earner.

At its peak in 1999, Zimbabwe trailed Kenya as the second largest producer and exporter of cut flowers, fruits and vegetables in Africa, a position that has since been taken by Ethiopia. Exports grew to \$32 million in 1991 from \$3.5 million in 1986, contributing between 3.5 percent to 4.5 percent of the GDP, and was second to tobacco in foreign currency earnings. In 1999, the country earned \$143 million, \$60 million from cut flowers. However, the earnings nosedived between 2000 and 2008, before bouncing back to \$71 million in 2012 and \$96 million in 2015, according to trade promotion agency Zimtrade. Despite the significant increase from \$49 million the previous year, this is still about half of the country's peak output recorded in the 1999/2000 season.

The Zimbabwe fresh produce show, International Horticulture & Floriculture Trade Fair "HortiFlor Zimbabwe, will be staged at the Convention Center, Harare, from October 9-11 2018. Growers, exporters, suppliers and



The Zimbabwe fresh produce show will bring together growers, exporters, suppliers and investors with the purpose of increasing production and exports

The 'Return of Zimbabwe' to horticulture export industry

The Zimbabwe fresh produce show, International Horticulture & Floriculture Trade Fair "HortiFlor Zimbabwe, will be staged at the Convention Center, Harare, from October 9-11 2018.

investors will meet during the three-day day event, with the purpose of increasing production and exports. Hortiflor Zimbabwe organizer Dick Van Raamsdonk the HPP exhibitions President is upbeat and said in Nairobi, Kenya, during the International Flower Trade Exhibition (IFTEX) in June Zimbabwe was coming up fast to reclaim its lost glory.

Command Agriculture Scheme

Government is targeting to surpass the \$143 million mark from horticultural export proceeds next year after extending the sector to Command Agriculture Scheme.

According to reports in the Herald newspaper published in Harare, Lands, Agriculture and Rural Resettlement Minister Perrance Shiri, said extending



Participants at a past Flower Trade Expo

the horticulture sector to Command Agriculture is one of the strategies to revive the sector, which will avert poverty, hunger and malnutrition in addition to generating foreign currency and creating employment opportunities down the value chain.

“Starting from 2018 /2019 summer cropping season we will be extending Command Agriculture to horticultural sector. This will help the country to earn much needed foreign currency”, Herald quotes the Minister as saying.

“We have already agreed with some private players to begin the programme and funds mobilisation is already underway to start the programme next season,” said Minister Shiri.

Minister Shiri said revival of the horticultural sector as a top foreign currency earner, was a top priority for Government and access to penetrate foreign markets, setting up of irrigation and mechanisation structures will help to revive the sector. He said the major reason for the rebound of the horticultural sector

Starting from 2018 /2019 summer cropping season we will be extending Command Agriculture to horticultural sector. This will help the country to earn much needed foreign currency

was better coordination through the Horticulture Promotion Council (HPC), minimum regulation, a market-driven production strategy, high profile image in the international markets, good infrastructure and abundant land.

“The horticulture sector is now dominated by small-scale production outfits that are dotted across the country and are saddled with technological and skills challenges, inadequate credit lines to finance production” Minister

Shiri said. Other challenges include lack of, specialised transport and farm equipment.

Last year, Germany expressed interest to import 15 horticultural crops from Zimbabwe, a development likely to earn the country millions of dollars in foreign currency, as the demand for organic crops increases.

The recently announced measures in the Mid-Term Fiscal Policy-

In 2016 the government removed export permits for the horticultural sector as part of measures to compliment export development and promotion initiatives being spearheaded by ZimTrade.

The removal of export permits is aimed at improving competitiveness of the country’s flower exports through reduction of costs associated with regulation documents, long waiting periods of processing licenses and approvals as well as exhaustive processing of export documentation.

Zimbabwe produces roses, proteas, asters and chrysanthemums. The Netherlands is its largest export destination for cut flowers, importing an average of 69 percent in the last 15 years. In order for local flower growers to keep abreast with state-of- the-art production practices as well as marketing techniques, producers should interact with the Zimbabwe Trade Information Portal (Smart tools and trade map) in order to obtain information on the latest trends, according to a report by International Trade Centre.

EU market

The government has committed to re-engage the European markets and facilitate partnerships, contract farming and financial support. Floriculture accounts for at least 70 percent of the total value of horticultural exports and 30 percent by volume, which amounts to 14,500 tonnes. The European Union consumes the bulk of Zimbabwe’s exports, with the United Kingdom (\$13.5 million), Germany (\$5.3 million), France (\$3.2 million) and Poland (\$2.9 million) taking up a combined \$57.5 million worth of produce. Most exports, spanning a season from mid-September to late May,



and produce during this 3 day trade fair. Furthermore a conference will be held for which keynote speakers will be invited as well as workshops and seminars that will be part of the programme.

With this initiative HortiFlor hopes to contribute to the further growth of production and consequently exports of floriculture products and horticulture produce to Europe, but also to other regions in the world ☐

are channelled to the Dutch auctions. South Africa imported fresh produce worth \$2.1 million from Zimbabwe last year.

Citrus was the leading export horticulture product in 2015, making up 32 percent of total volumes, followed by flowers at 25 percent, peas at 19 percent, dried leguminous vegetables at 11 percent, berries at 7 percent while an assortment of other produce made up the remaining 6 percent.

Zimbabwe is currently the leading exporter of peas into the European Union, but supplies only 3 percent of the bloc's exotic fruit, according to the Dutch Embassy.

Hortiflor Zimbabwe

From Tuesday October 9 to Thursday October 11 the first edition of a new exhibition "HortiFlor Zimbabwe" will be organized in Zimbabwe, Africa. The trade fair that will be focusing on the promotion of the Zimbabwean horticulture and floriculture industry, will take place in the Harare International Convention Center, the HICC.

HortiFlor will be a platform meant to bring together international suppliers from the fresh flower & fresh produce industry, to meet with growers, farmers, traders, investors and (non) governmental bodies from Zimbabwe with the goal to increase production, trade & exports of Zimbabwean grown flowers, vegetables and fruits. For this purpose suppliers, but also growers, will be able to display their products

New exhibitors create a déjà vu at AGRIFLOR 2018

In about a month, Zimbabwe will host the new horticulture trade fair "HortiFlor" at the Harare International Convention Center in the capital of Zimbabwe. "It is about time to boost production and exports of Zimbabwe's horticulture products. Having been Africa's 2nd largest exporter, the time has come to get things on the road again and try and see whether a place in the top 3 can be achieved", the organizer of the trade fair Dick van Raamsdonk of HPP commented.

The exhibition is gearing up and has now almost 40 Zimbabwean and international exhibitors. Growers of vegetables, fruits & flowers as well as various national and international horticultural suppliers have already taken up most of the ground floor exhibit space. There is plenty of space for another 100+ exhibitors on the second floor of the exhibition center in Harare. With a total expected number of 75 exhibitors for this first edition, there is still enough space for interested companies to participate. The world has changed, the circumstances are different, but the demand has stayed. Reason why all players in the world of Horticulture should be present during the trade event that will run from Tuesday October 9 to Thursday October 11.

Besides the exhibition itself, meetings are being planned by various organizations, all related to Zimbabwe's Horticulture industry. It is expected that there will be a very high and broad interest to attend, by both exhibiting and attending companies from in and outside Zimbabwe. For this reason it is important to pre-register online for an entry badge, since the number of visitors that can enter is limited and admittance subject to industry qualification conditions ☐

The following exhibitors have confirmed attendance

Company	Country	Booth
1 .160 Hydro Farm	Zimbabwe	A7.11
2 .Asthor Agrícola, S.A.	Spain	A2.03
3 .Ball Straath	South Africa	A7.07
4 .Coldiron Pbc	Zimbabwe	A6.13
5 .Delphy	Netherlands	A7.05



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Drones give farmers a big picture view of their crops, allowing them to detect subtle changes that cannot be readily identified by crop scouts or extension workers on the ground level.

Drones, the game changer in precision agriculture

While many grapple with what drones can do, other progressive countries have adopted the technology for precision agriculture with impressive results

By **CLIFFORD GIKUNDA**

Could drones be the future of African agriculture? Perhaps this is a question that is asked by the few drone and technology-savvy people in the continent who are conversant with the emerging technology. To scores though the how drones can be used in agriculture is an area they are yet to be introduced to.

For starters the word “drone” originates from the military but it’s now used to describe civilian technologies, in the International Civil Aviation Organization (ICAO) and the European Union they are referred to as Unmanned Aerial Vehicles (UAVs) as part of a broader category of unmanned aircraft that can be

programmed to fly autonomously.

The official terminology in civil aviation laws is “remotely piloted aircraft systems” (RPAS). While some regulators such as the US Federation Aviation Administration (FAA) will call it the Unmanned Aircraft System (UAS).

While many grapple with what drones can do, other progressive countries have adopted the technology for precision agriculture with impressive results, but what exactly can a drone do in the growth of the agricultural sector in Africa?

On the most basic level, drones can give farmers a big picture view of their crops, allowing them to detect subtle changes that cannot be readily identified by crop scouts or extension

workers on the ground level. Drones when equipped with special sensors can inexpensively collect multispectral Neutral Density Vegetation Index (NDVI) and infrared (IR) images, allowing farmers to view crop changes that are otherwise invisible to the human eye.

Farmers without doubt have always needed accurate, precise and up-to date information on basic requirements like plant health, the environmental condition of the land to ascertain the elevation and topography among others. Agricultural aircraft have been in use since 1920s, while advent of satellites much later would give agriculture experts an opportunity to assess crop health from the skies.

“The problem with satellites is they are located 20,000km away from the earth and they carry carrier signals with super imposed code, by the time they reach to us they could be exhausted” says Walter Volkman the president of Micro Aerial Projects L.L.C in the USA.

While UAVs are unlikely to entirely replace manned aircraft or the satellites, they have a number of advantages; for instance the technology is capable of collecting very high resolution imagery below the cloud level with much better detail than the satellite images usually available to developing countries analysts.

Drones can be used in mapping and surveying in which through GIS they can give farm boundary delineations, crop area calculations, elaboration of digital elevation models. The other agricultural component that drones can be of great use is in coming up with a crop inventory which gives tree crop count and yield estimations through biomass indexing.

The drone technology can further be utilized in crop scouting like identification of specific crop stress, assessment of biomass development, the technology is also useful for insurance purposes to assess crop damage and critically for crop management advisory where a farmer gets up to date information of fertilization of his crop.

“With the Nitrogen Nutrition Index (NNI), drones can solve the way fertilizers are applied because you can be able to give both exact timings and quantity of fertilizer needed per crop because like in sugar beet, if you give them too much nitrogen you lose the quality.

And most importantly most farmers do not know at what point they can do fertilization for optimum results” says Hamza Rkha Chaham a drone software processing consultant.

The technology through adoption of both the vertical and oblique photography can be used for infrastructure development in



inspection of buildings that are coming up, the standard of a road, a railway line or even keep real time surveillance of electricity posts and connections.

The technology can also assist farmers in ascertaining their credit-worthiness via the integration of farmer profiles with high resolution images, crop diagnostics, and accurate and up-to-date geo-referenced data sets.

In a recent case study in Tanzania, a team of researchers from the International Potato Center (CIP) used a UAV mounted remote sensing technology to obtain data on sweet potato varieties and through spectral signature the researchers were able to

identify from the air whether a crop is sweet potato, cassava or something else and were also able to determine what variety the crop is.

The spectral signature was further able to reveal whether individual plants are water stressed, nutritionally deficient or under attack by insects or viruses. Such changes can be detected in the aerial multispectral images before they can be seen by the human eye.

According to Everina Lukonge, a plant breeder when statistics are not known, you cannot estimate production heaping praise on the drone technology saying that if there is UAV gathered data, it means its easier to plan

“You can estimate the food, may be next season there is hunger or maybe there will be a bumper crop, so you can look for a market. It can help in planning and budget allocation” She said.

The drone technology is now available for use on the continent with a few companies having gone through the training on the use of the UAVs equipped with the right multispectral sensors to acquire relevant data. Kenya has three companies and they are rolling out the technology to all the farms that would be interested in precision agriculture from the skies □

“With the Nitrogen Nutrition Index (NNI), drones can solve the way fertilizers are applied because you can be able to give both exact timings and quantity of fertilizer needed per crop because like in sugar beet, if you give them too much nitrogen you lose the quality.

How Magana Flowers STOOD out and made an impression during 2018 IFTEX

The well thought stand design is consistent and synonymous with Magana Flowers products and customer experience

By JOY OCHUKA

Magana Flowers is always in search of new ideas and inspiration for beautiful and stylish themes for displaying its array of flowers during expos. During this year's 2018 IFTEX show, Magana Flowers took show visitors by storm through their expo stand design and layout. It is the interactions that people have with brands that help them develop opinions and ideas about a brand. A stand that is untidy and uninspiring will immediately put people off. However, Magana Flowers expo booth stood out. They were able to demonstrate what their existing and potential global business partners should expect from Magana Brand going forward. Word spread like bushfire through word of mouth and social media to all would be visitors. The leading grower from Kenya was able to connect to all its visitors at a deeper level than what even the event organizers (HPP) may have realized.

Magana Flowers CEO Mr. Nicholas Ambanya says that "we wanted to be different and to stand out from the usual flower vase displays, we worked as a team to come up with this spectacular stand during 2018 IFTEX. We got the inspiration from the appearance of a constantly flowing water feature but expressed the same using our top 10 year round best sellers (flowers) available in our farm in a very



versatile and stylish manner."

The well thought stand design is consistent and synonymous with Magana Flowers products and customer experience said the farms Marketing

Manager Joy Ochuka.

Listening to a random visitor to the stand Mr. Mohammed Iqbal of Dilpack, Kenya Limited you will be awed by his remarks, Mohammed reckoned that



he had expected that Magana Flowers would have won Gold if not Platinum prize for the best stand awards, however to his dismay the organizers failed to give Magana even Bronze.

Magana chose to repurpose wooden wine barrels to create an elegant and rustic atmosphere at their expo stand. The idea behind the theme was to depict that their farm produces stunning array of flowers that will endeavor to continuously create experiences of unforgettable joy to its customers.

Notably, they also were able to take floral arrangements to the next level using a crafty, organic log centerpiece, where they show cased all their very interesting upcoming varieties including: Silver Shadow, Knox, Pure Moments, Orange Reeva, Red Reeva, Lyrica, Green Flash, Pegasso, Vertigo, Alaska and a range of summer flowers including Solidago, Gypsophila and Limonium.

Joy Ochuka is the Marketing Manager, Magana Flowers.

The Magana Flowers journey

When curtains came down on what has gone down as arguably the best flower show yet at the 7th edition of the International Flower Trade and Exhibition (IFTEX) in June, the big question out there, and still as fresh as the event is : Was

Magana Flowers stand the best despite not winning an award? The show-stopping display of a canopy of flowers cascading like a water fall is yet to be explained but, what is indisputable is the stand was top among the most photographed, the most talked about, the best for a photo-op.

But behind the radiant petals and alluring assortment of bouquets is the heartwarming story of the dedicated hands and technology that meticulously follows the flower from its nascent stage to maturity while ensuring the highest levels of protecting the environment.

At the heart of this journey are cutting edge innovations that drives the company's mantra of producing the best quality flower that meets customers' demands at low cost.



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Kenya overtakes South Africa in avocado exports

In 2017, one year before the lifting of the ban, tables turned in favor of Kenya thanks to a 10-percent growth rate. A massive depreciation in South Africa's stake in the avocado market saw negative 25 percent growth rate.

By SELINA WAMUCHI

Kenya Avocados' impressive volumetric growth rate per year and access to new markets has helped the country to overtake South Africa as the number one exporter of avocados from Africa. According to Trade statistics from International Trade Centre (ITC), the East African country became the 11th largest exporter avocados in the world in 2017, exporting a record volume of 51, 507 tons to the world. South Africa, traditionally the lead exporter of avocados from the continent, relinquished the position and trailed Kenya for the first time in five years with 43, 492 tons.

Statistically, as the top performer in the Africa avocado exporting industry, Kenya holds 1.3% of the total world volume. South Africa follows by 1.1 percent, a depreciation from the 2016 peak of 1.6% when it was Africa's export champion. Even though these two countries' figures are a far cry from the 48.4 percent market share of Mexico, they are nonetheless impressive for each country. While Kenya boasts new markets like the Russian Federation and South-east Asia, South Africa has over 90% of its exports going to European Union countries.

Between 2013 and 2014, Kenya experienced 16 per cent growth rate in avocado exports. South Africa clinched a lead with 30% growth margins hinged

upon an appreciation of 15,000 tons to peak at 65, 845 tons of exports in 2014.

Kenya buoyed its stake towards its current top exporter position by scoring better growth than South Africa in the 2014-2015 timeline. While its southern counterpart registered 26% margin of growth, Kenya more than doubled its yearly rate to reach 34%. Though it was still second to South Africa's diminished output for that year, Kenya's 2015 export volume of 38,895 tons had closed in on the 30,000-ton mark for the first time.

In the 2015-2016, Kenya still had the better of South Africa with its 20 percent growth margin over South Africa's 19%. The lead to the top volumetric position would however have to wait until a year later. Indeed in



Staff at Selina Wamucii Limited. The company works with smallholder farmers across Kenya in the export of key fresh produce top among them avocados.

By the end of 2017, Kenya had exported 51,507 tons of avocados. South Africa had only managed 43,492 tons from its previous high of over 57000 tons. Export analysts expect a growth rate of between 20 and 30 percent for Kenya avocado exports.

2016 South Africa still topped Kenya with a total export volume of 57,866 tons versus Kenya's 46,682 tons.

In 2017, one year before the lifting of the ban, tables turned in favor of Kenya thanks to a 10-percent growth rate. A massive depreciation in South Africa's stake in the avocado market saw negative 25 percent growth rate. This clincher also assisted Kenya to make away as the top avocado exporting nation in Africa. By the end of 2017, Kenya had exported 51,507 tons of avocados. South Africa had only managed 43,492 tons from its previous high of over 57000 tons.

Export analysts expect a growth rate of between 20 and 30 percent for Kenya avocado exports.

South Africa mostly looks to the EU while Kenya looks to the East for their markets. Kenya's pool of the biggest importers includes the United Arab Emirates, Saudi Arabia and more recently, the Russian

Federation. The UAE tops the list with some 12,041 tons for 2017. Saudi Arabia is Kenya's fourth largest importer with some 4,874 tons worth of imports in 2017.

The second, third, and sixth major export markets for Kenya avocados are all in Europe. The Netherlands leads the pack with 10,556 tons of the fruit from the 2017 statistics. France is the third biggest importer: its net volume stood at 10,423 tons in the same year. The United Kingdom and Spain close the top 7 with volumes that verged on 2,944 and 1,734 tons respectively in 2017.

A set of newcomers that will continue to buoy the Kenya avocado market include Singapore, Qatar, China and Egypt. Egypt is the biggest importer among the pack with 2017 volumes of 12,251 tons. Singapore is an important market in Asia: next to Japan, Thailand and South Korea, it ranks highly among the biggest avocado importing nations.

Asian markets like China and the Middle-east will also help to sell much

of Fuerte which Kenya grows and seldom makes it to Europe where Hass has the market hold.

With a steady growth rate in the first half of this decade, avocado exports from Kenya to its top destination, the UAE have peaked momentum. They rose by 22% in the 2013-14 timeline and improved at 32% in 2014-15. Though the growth rate was lackluster through 2015-16 and 2016-17 at only 2% and -11% respectively, the UAE still clinched the volumetric figures at 12,041 tons by end of 2017.

Since the Netherlands is the grocery capital of Europe, Kenya has a vantage point by being the number two main exporter from Africa. The growth rate has been phenomenal: from a negative 18 percent in the 2013-14 period, the margin upped to 57% in the 2014-15 timeframe and then took off to 101% in the 2015-16 timeline. Though the margin depreciated by 3% due to Brexit and other ramifications in 2017, this country in the heart of Europe still remains a key export destination for Kenya.

Saudi Arabia is perhaps the steadiest market for Kenya with its avocado imports from Kenya rising from 10, 880 tons in 2013-14 to 12, 865 tons in 2014-15 timeline. Therefore, the exports to Riyadh grew from 16% to 44% in the two periods. The best growth period was the 2015-16 phase, at 96%.

One of the major reasons why Kenya avocados will grow from strength to strength is the burgeoning trade with the strategic newcomer, the Russian Federation. After boycotting fresh fruits' trade with the European Union in 2014, Russia looked south and clinched deals with new trading partners. With Russia, Kenya stands a chance: Russia's less stringent residual level controls that sometimes have deprived Kenya of its European market share are worth notice.

Hot on the heels of a 2017 trade pact with Kenya, the country soared from a negative import volume growth rate to four-digit growth rates a year later. In the 2013-14 timeline, Kenya avocados experienced a -83% export lull to



Russia. This would shoot to 1639% in the period 2014-15. These figures leveled down to the still impressive 398% and 109% growth margins in the 2015-16 and 2016-17 phases respectively. Thus, in 2018 the exports to Moscow may surpass the 4,172 tons realized in 2017.

Russia and Italy are key destinations of the green skins in Europe. Italy is yet to make a mark in the Kenya avocado scene as Russia has done. This is why the bulk of local Fuerte goes to Asian destinations.

Kenya manages to produce 200,000 tons of avocados per year. Nearly a third of these go to the export markets. The rest are either consumed locally or receive value addition such as extra-virgin oil production.

20% of Kenya avocados are of the hass variety. 85 percent of Kenya hass avocados go to Europe especially the Netherlands. Fuerte constitutes 80% of all avocados meant for export. Local and exotic cultivars like jumbo,

pinkerton and puebla make up the bulk of avocados in Kenya. Though these are popular in the local Kenyan market, there is growing interest especially from the Middle East especially when hass and fuerte varieties are in limited supply.

The growers of Kenya avocados are smallholder farmers who control over 80% of the production.

This is a perfect time for Kenya's avocado industry. Not only has the country attracted export resumption to South Africa but has overtaken the latter to become the continent's avocado powerhouse – a trend to watch.

Kenya is still in a strong position to sustain its avocado export dominance in Africa. This is aided by the fact that Kenya's smallholder farmers are robust and with the emergence of agri-tech players like Selina Wamucii who are making sourcing efficient, the country is well positioned to surprise the world ☐

French breeder George Delbard sets up showhouse at Oserian Two Lakes Flower Park

Park is ready for business since investors would ride on Oserian's existing infrastructure such as greenhouses, geothermal power, hydroponics system, biological pesticides control and other environmentally friendly flower growing innovations.

French flower breeder George Delbard is the latest firm to set up shop at the newly established Oserian Two Lakes Flower Park in Naivasha, Kenya.

The park is part of Kenya's largest flower exporter, Oserian Development Company diversification strategy that kicked off in April, managed by the firm's investment arm, Oserian Two Lakes.

George Delbard will use the facility to avail flower exporters in Kenya and the region with new varieties in the novelties range (special flowers), said Chairman Arnold Delbard at the International Flower Trade Exhibition (IFTEX) June 7, Nairobi, where the deal was signed.

IFTEX is an annual flower show held in Nairobi early June, organized by HPP Exhibitions.

Welcoming the firm's newest client, Two Lakes Managing Director Robert Ward said the park was ready for business since investors would ride on Oserian's existing infrastructure such as greenhouses, geothermal power, hydroponics system, biological pesticides control and other environmentally friendly flower growing innovations.

George Delbard becomes the second breeder to set up at the Two Lakes after Netherlands-based Select Breeding. Mr Delbard said the move was informed by a growing demand for novelties and need to be closer to customers since Naivasha is home to 80 per cent of Kenya's flower growers.

Welcome to Business: Arnold Delbard (left) the Chairman of Arnold Delbard flower breeding company and Robert Ward (right) Oserian Two Lakes Managing Director after signing the lease agreement



Select Breeding general manager Michael De Gues said if breeders set up in one area it would greatly benefit the industry by holding joint open days to introduce new varieties.

Oserian Two Lakes covers approximately 20,000 hectares with a diversification plan that will include residential estates, commercial and industrial parks, hotels, leisure parks and wildlife sanctuary among other commercial activities, as it positions itself to tap into the opportunities created by the Standard Gauge Railway Naivasha terminus and the push to fully develop geothermal power at Ol Karia.

The Oserian Two Lakes seeks to create a "green city" in Naivasha by harnessing natural resources within its land such as geothermal. The company that prides itself as green by nature is planning to set up a mega solar plant to compliment geothermal power, said

Mr Ward. "We plan to set up a green energy powered business park", he said.

Companies that have taken up space at the park include South Africa's Madumbi (a biological pesticides firm), Two Lakes Packing Services , Oserian Flowers and Netherlands breeder, Select Breeding.

The Oserian diversification has seen some of the firm's divisions such as packing, non-rose growing and Research & Development morph into independent entities – Two Lakes Packing Services, Oserian Flowers and Madumbi from which the company is outsourcing the services and products. Oserian will continue with roses production while Oserian Flowers will independently grow summer flowers and other fillers.

These businesses will provide their services to other investors at the park to enable them set up seamlessly □

Oserian bags awards at IFTEX as diversification takes root

Other winners in the Best Stand Design – Non Perishables include Bronze for Afrex/Cargolite, Silver for Panalpina, Gold for Elgon Kenya Ltd and Platinum for Royal Flora Holland while in the perishables segment fellow winners were Silver for Subati, Gold for Omang & Amor/Decofresh and Platinum for Fontana/Black Tulip.

By CATHERINE RIUNGU

Kenya's largest flower grower Oserian Development Company has ushered its diversification programme in style by bagging two awards at the International Flower Trade Exhibition (IFTEX) held in Nairobi on June 6-8.

The Oserian stand that housed businesses that have set base at the new Two Lakes Flower Park was awarded Bronze for Best Stand Award – Non Perishables as well as Silver for the Best Grower Quality Competition Roses for its Charming Lady variety.

An elated Mary Kinyua, the firm's Administration Director described the trophies as a sign of a bright future for the business that is undergoing a major restructuring to transform into a fully-fledged business park, eventually creating a green city in Naivasha. The process is being overseen by Oserian Two Lakes, the investment arm of the operations.

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The trophies were not the only good news coming to Oserian from IFTEX. At the show, a new Flower Park tenant, French flower breeder George Delbard signed an agreement to set up a showhouse.

George Delbard will use the facility to avail flower exporters in Kenya and the region with new varieties in the novelties range said Chairman Arnold Delbard.

Welcoming the firm's newest client, Two Lakes Managing Director Robert Ward said the park was ready for business since investors would ride on Oserian's existing infrastructure such as greenhouses, geothermal power, hydroponics system, biological pesticides control and other environmentally friendly flower growing innovations.

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Mary Kinyua, the Administration Director at Oserian Development Company displays the two awards the company won at the 2018 International Flower Trade Exhibition

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Diversification

Oserian Development Company Ltd, one of the largest flower growers and exporters in Kenya has embarked upon a bold plan to diversify its commercial activities.

Consequently, the Farm has been subdivided and Change of use amended to Industrial,

Commercial and Residential uses in support of the diversification plans.

Oserian is already a small town in its own right, with over 11,000 people living in its Company funded housing estates and benefitting from the Company funded Creches, Schools, Medical Centre and Social Halls.

The new strategy will ultimately see the expansion of these amenities in support of the diversification which will see the creation of an industrial park which will be known as Two Lakes Industrial Park. In addition the company has already created Two Lakes Flower Park and Two Lakes Business Park – both of these are already up and running with tenants in situ.

In order for the business to be better able to focus upon these diversification plans, the company recently contracted out all its flower packing operations and similarly put all the nonrose crop production on a Contracted basis. Both providers are also looking to offer their services to the other Companies that are moving into the Flower Business Park.

Negotiations are ongoing with additional tenants for both the Business Park and the Flower Park and Oserian has already received the first significant expression of interest in the Industrial Park. The new developments are in line with the foundations of green energy and creation of agro-processing businesses that are seeking steam and affordable electricity.

Upon completion, the entire Two Lakes project is expected to create over 20,000 new jobs. Agriculture remains part of Oserian's DNA and in addition to the continued growing of Roses, the Farm is also diversifying into growing other non-flower crops □

days to introduce new varieties.

Oserian Two Lakes covers approximately 20,000 hectares with a diversification plan that will include residential estates, commercial and industrial parks, hotels, leisure parks and wildlife sanctuary among other commercial activities, as it positions itself to tap into the opportunities created by the Standard Gauge Railway Naivasha terminus and the push to fully develop geothermal power at Ol Karia.

The Oserian Two Lakes seeks to create a “green city’ in Naivasha by harnessing natural resources within its land such as geothermal. The company that prides itself as green by nature is planning to set up a mega solar plant to compliment geothermal power, said Mr Ward. “ We plan to set up a green energy powered business park”, he said.

Companies that have taken up space at the park include South Africa's

Madumbi (a biological pesticides firm), Two Lakes Packing Services , Oserian Flowers and Netherlands breeder, Select Breeding.

Two Lakes Flower Park is now up and running with six tenants already signed up and room for plenty more. Although the Two Lakes Flower Park is offering bare land for lease, it is also providing a unique offering for the smaller scale business by offering a turn key solution that includes use of Two Lakes Packing Services, one of the existing tenants, to process the stems, central procurement and logistics, agronomy services and Integrated Pest Management via another tenant, Madumbi East Africa. In the future, geothermal heating and carbon dioxide injection will be made available to those tenants that request it. Although titled Two Lakes Flower Park, the development is not limited to only those involved in the growing of flowers.

Contact Robert Ward, Managing Director, Two Lakes Flower Park, robert.ward@oseriantwolakes.com



The the growing love for Avocado

To reap healthy rewards, it is essential to do a full risk assessment before you start and maintain a healthy plantation that gives top yields for many years

By RUTH VAUGHAN

Full of flavor, packing a high nutrient punch and neatly protected by its own skin, it is no wonder that the amazing avocado is gaining popularity as a healthy superfood. The annual global demand is increasing at a faster rate than the annual global production resulting in higher prices on the world market. Despite the price increases demand continues to grow. In America alone, the annual per person consumption of avocados increased an incredible 7 times between 2009 and 2016! Kenya is the 6th largest producer of Avocados in the world. Avocados are also very popular for local domestic consumption.

It is not surprising, then, that avocado production ticks lots of boxes in our 2030 Vision and most recently in Uhuru's Big 4. Food security and agricultural development are key pillars. There is a great deal of talk and action around avocado farming at county

level. It is most important to retain our reputation for good quality sustainable production in the Global Market.

Avocados are the fatty fruit of the avocado tree, *Persea Americana*, native to Central and South America. They have a smooth creamy texture, suitable for young children and a pleasant flavor. They are packed with fiber, and heart healthy mono-saturated fats, and are rich in vitamins and minerals. They are low in sugar, sodium and cholesterol. They contain 1.6 times more potassium than bananas and act as a nutrient booster by increasing the absorption of fat soluble vitamins such as A, D, K and E.

Avocado Farming – where to start.

Avocado farming is a long-term project, with initial high costs at planting, followed by a 3-5 year wait for the trees to come into production. To reap healthy rewards, it is essential to do a full risk assessment before you start and maintain a healthy plantation that

gives top yields for many years.

Climate and variety – the two are interlinked. Variety is market driven (for e.g. Fuerte is preferred for the domestic market and Hass for export). West Indian cultivars originated in the humid tropical lowlands of Central America and prefer higher temperatures and humidity and do not tolerate frost. The Mexican races are more frost tolerant and grow at lower temperatures



and humidity. Guatemalan cultivars originated from tropical highlands and are sensitive to high temperatures (38C) and low humidity (<65%) which cause flower and fruit drop. Fuerte cultivar is a natural hybrid between cultivars and has a wider climatic tolerance.

In general, cool temperatures (mean daily 20-24C) are best because hot dry weather causes fruit drop. Areas with little to no frost. Humidity should exceed 50% at midday especially during flowering, pollination and fruit set. Avocados hate wind. They have brittle branches that snap off easily. Wind damages the fruit.

Water – rain fed avocados need >1000 mm rainfall a year, spread out throughout the year, with a two-month drier season pre-flowering. Most avocados need irrigating. Plants require about 25 mm water per week. Farmers should ensure that they have access to enough water year-round as droughted avocado trees die fast. Irrigation water quality should be tested. High pH and bicarbonates create a free lime build up in the soil. High salts, sodium and chloride have a very negative affect on the plants.

Application of water is by drip or micro sprinkler. The main roots are very shallow, and water needs to be evenly distributed throughout the root area. The soil in the root zone can easily dry up or become salty and proper moisture control is critical. A diligent farmer will invest in a proper soil moisture monitoring system – as soil moisture determines root health, production and longevity of the trees.

Soil Requirements



A healthy avocado tree has a root system that can penetrate the soil to 1 m, with most of the feeder roots in the top 20 cm of soil in the drip zone. The roots are very fragile. Root rot (Phytophthora) can develop very fast when roots are damaged or waterlogged. It is essential to determine, in advance, the suitability of soil for avocado production.

Soil profile pits should be dug throughout the farm, at least 1.5m deep and a minimum of one pit per ha (more in hilly or non-homogenous areas). One should look at soil color, soil texture, hard pans, sitting water, structure, patches, concretions, gravel and stones. Soil samples should be analyzed for chemical and textural properties. Samples should include both the topsoil (0-20cm) and subsoil (20cm-1m). Drainage and soil depth can be increased by mounding the soils up.

Red / brown soils are preferable, yellow/gray/light brown soils are often prone to temporary or permanent waterlogging. Very dark or black soils tends to have too much clay or a large percentage of organic matter that may result in acidic conditions and aluminum toxicity.

Clay content should be tested in the lab (soil texture analysis). Avocados do best in soils with 20-40% clay. In soils with a low clay content (<20%), the water holding capacity is generally much lower, requiring more frequent

irrigation, and the roots may suffer from temporary drought. Very heavy clay soils have higher water retention and lower infiltration rates. These soils may become oversaturated during heavy rainfall or over irrigation, which promotes root rot.

The roots grow near the surface and are very fragile. Soil structure plays a big role in production and root health. Strongly developed block structures, soils that break into hard clods and soils that have large cracks when dry are unsuitable. Soils should only show small, fine cracks when the soil dries up.

Avocados can grow in soils from pH 5-7, with an optimum pH of 6.2 to 6.5. A complete soil analysis, done in good time well in advance of planting, is essential. Lime is added to acidic soil to increase the soil pH to 6.5. Dolomitic lime is part substituted for calcitic lime if magnesium is deficient. If phosphorous is deficient it should be added along with the lime and mixed thoroughly into the soil prior to planting. If the soil is too alkaline, the pH may be reduced by adding sulphur and keeping the soil moist for 6-12 months.

Calcium is a critical nutrient in avocado production. Soil levels need to be higher enough to suppress root rot. Plant levels are important for the nutrient content and storability of the fruit.



high and low root temperatures and salinity buildup. As the trees grow and mature they will make their own thick layer of mulch. Very often the feeder roots will establish in this mulch. The mulch also reduces weed competition.

Analysis and Fertilizer Application

A full irrigation water and pre-plant complete soil analysis of top soil and sub soil are required at least 6 months before you plant. Thereafter an annual soil analysis is required to check the nutrient status of the soil. This should be accompanied by a leaf analysis and irrigation water analysis. The amount and type of fertilizer required depends on the soil nutrient status, water quality, plant size, plant density and yield expectation. To get good consistent soil and plant status results, 20 healthy, representative, well distributed trees should be marked and the soil and leaf samples taken from these. To get a good fertilizer program going, at least five years of soil and leaf samples should be taken, and the history noted. It is not always possible to correct nutrient imbalances in one season because it is a gradual process.

Young transplanted avocado trees should not be fertilized too early. Trees must first become properly established and vigorously growing (6-12 months). Never apply fertilizer against the stems of the trees. Each fertilizer application should be followed by a light controlled irrigation. DO NOT work the fertilizers into the soil – this will damage the shallow roots. For irrigated trees, fertigation is preferable to top dressing to prevent EC spikes and to get an even distribution of fertilizer in the root zone □

Soil Preparation

Soils should be deep ripped in a cross pattern to crack any hard pans. Soil amendments (lime / calcium / phosphorous / organic matter) should be well mixed into the soil. The soil should be loosened as deep as possible. In shallow soils – ridges of 3m wide and 0.5m high are recommended to increase soil depth and drainage.

Inter-row spacing should be planned to allow equipment access. Tree density depends on the climate and the variety.

Planting

Plants should be certified clean, well hardened, grafted plants. Plant the trees as soon as possible to prevent them from becoming root bound or developing nutrient deficiencies. Store plants in the shade, because containers can become hot and the roots can easily burn. If soil preparation is done properly a small

planting hole should be dug, plants placed in the hole and the soil pressed gently in around the roots. Plant trees to the same depth as they are in the planting bag with a slight mound around the base to prevent water puddling on the stem. Young trees are very susceptible to salt damage and a well-prepared orchard should not require fertilizer in the planting hole. Support the trees with sturdy props and whitewash the stems to prevent sunburn.

Proper irrigation is critical to get a good plant stand. Young trees have a very small root system and are used to frequent irrigation. Avocados are very sensitive to moisture stress. Apply frequent light irrigations, and regularly check the subsoil moisture status and apply intermittent larger irrigations to re-fill the subsoil. Note over irrigation is just as harmful as under irrigation.

A thick organic mulch is recommended in young plants to reduce evaporation off the soil and prevent very



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Kennedy Onyango, Key Accounts Manager, Lawns and Garden at Syngenta East Africa demonstrates the impact of nematodes on flowers at during a training session at Interplant Roses in Naivasha

Joint efforts to enable the Kenya flower industry deal more effectively with nematodes

The International Institute of Tropical Agriculture (IITA), the International Centre of Insect Physiology and Ecology (icipe), and Syngenta have jointly commenced efforts to enable the Kenya flower industry to deal more effectively with nematode pests — minute and extremely destructive soil dwelling worms.

“Our initiative resonates with the sector’s ambitions to solidify local and global positioning of the so-termed Kenya flower brand, amidst a range of emerging opportunities and challenges,” noted Victor Juma, Business Manager East Africa, Lawn and Garden – Syngenta East Africa Limited.

The flower industry, one of Kenya’s most important, earns the country around \$0.8 billion annually, providing

employment for more than 500,000 people, and impacting over two million livelihoods. Prospects remain largely positive, with the country’s market share in the European Union expected to rise by 2%, to 40%, in 2018. Kenya is also anticipated to expand its flower trade to over 45 countries in Australia, Eastern Europe and the Far East. Should these goals be realised, the country will surge to second position, coming after the Netherlands, among flower exporters worldwide.

Still, Kenya’s standing as a leading flower exporter is not without contest, threatened over the recent past by rising competition from an ever-increasing number of producers, and climate change, among several factors. In response, the sector is exploring and optimising ways to produce the best quality and quantity of flowers. This

endeavour is entrenched in renewed vigour for adherence to local and international standards and guidelines, to ensure sustainability, responsibility and safety in flower cultivation, guided by aspects like good agricultural practices, environmental protection and conservation, as well as capacity building.

Flowers and nematodes

“Against this scenario, the ability of the flower industry to tackle pests proficiently is a significant component,” observed Laura Cortada-Gonzalez, soil health and nematology researcher, IITA. “While the impact of most other pests is evident, the effect of nematodes is less obvious and remains a hidden, yet real threat that reduces and compromises flower yield quality and quantity. For example, 17% of all cut roses produced

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Varieties of certified potatoes grown in Kenya

1. Roslin Eburu (B53)

It was released in 1953 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 2000 and 2800(altitude).It takes between 4-4.8 months to maturity and it has a good storability.

2. Dutch Robijn

It was released in 1960s by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1600 and 2600(altitude).It takes between 4-5 months to maturity. It has a good storage and crisping quality.

3.Kerr's Pink

It was released in 1960s by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1400 and 2700(altitude). It takes between 2-3 months to maturity. It is tolerant to drought, good mashing and roasting quality.

4.Anett

It was released in 1972 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1400 and 2400(altitude). It takes between 2.5-3 months to maturity. It is fairly tolerant to late blight disease.

5.Desiree

It was released in 1972 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 2600(altitude). It takes between 4-4.8 months to maturity. It has a good storage advantage.

6.Kenya Baraka

It was released in 1973 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1600 and 2700(altitude). It takes between 2.6-4 months to maturity. It is fairly tolerant to drought and good storage quality.

7.Roslin Tana

It was released in 1974 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 2600(altitude). It takes between 2-3 months to maturity.It has a good chipping quality.

8.Roslin Bvumbwe

It was released in 1974 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 2600(altitude). It takes between 2-3 months to maturity. It has a good chipping quality.

9.Kenya Dhamana

It was released in 1988 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 2600(altitude). It takes between 2-3 months to maturity. It has a good mashing quality.

10. Kenya Chaguo

It was released in 1988 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 2600(altitude). It takes between 2-3 months to maturity. It has a good mashing quality.

11. Tigoni

It was released in 1988 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 2600(altitude). It takes between 2-3 months to maturity. It has a good chipping, boiling & mashing quality, tolerant to late blight.

12. Asante

It was released in 1988 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 2600(altitude). It takes between 2-3 months to maturity. It has a good chipping, boiling & mashing quality, fairly tolerant to late blight.

13. Purple Gold

It was released in 2010 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 3000(altitude). It takes between 4.0-4.5 months to maturity. It has round tubers, dark purple skin colour, shallow eye depth, white flesh colour, moderately resistant to late blight, good storability/ resistant to greening, high tuber uniformity (80%), long dormancy, very good crisping qualities, also good for table, mashing and roasting.

14. Kenya Mpya

It was released in 2010 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1400 and 3000(altitude). It takes between 3.0-3.5 months to maturity. It has Oval / round tubers, early tuberization, large size tubers, cream white skin colour with pink eyes, shallow eye depth, cream white flesh colour, resistant to late blight.

15. Sherekea:

It was released in 2010 by the Kenya Agricultural and Livestock Research Institute (Karlo). It is recommended to for growing in areas of between 1800 and 3000(altitude). It takes between 3.5-4.0 months to maturity. It has oblong/round tubers, high number of tubers per plant, red skin colour, medium eye depth, cream flesh colour, highly resistant to late blight and viruses, good storability, intermediate dormancy, good for table, crisp and mashing.

16. Arnova

It was released in 2013 by Agrico East Africa Ltd. It takes 3-3.5 months to maturity. It has a Skin colour yellow, flesh colour yellow, tuber shape oval-long, drymatter content 18.2%.

17. Arizona

It was released in 2013 by Agrico East Africa Ltd. It takes 3-3.5 months to maturity. It has a Skin colour yellow, flesh colour yellow, tuber shape oval, drymatter content 17.2%.

18. Rudolph

It was released in 2013 by Agrico East Africa Ltd. It takes 4 months to maturity. It has a skin colour red, flesh colour is white, the tuber shape oval round and dry matter content 20%.

19. Connect

It was released in 2013 by Den Hartigh BV. It takes 3.5-4 months to maturity. It is Phytophthora resistant, no flowering, not sensitive to day length, has short cooking time and suitable to make home French fries.

20. Sarpo Mira

it was released in 2014 by Africalla. It takes 4 months to maturity. It is extreme good resistance to late blight in foliage and drought tolerance.

21. It was released in 2014 by Agrico East Africa Ltd. It takes 4 months to maturity. It has red skin, Crème flesh, Dry matter content 20%, Good resistance to scab, erwinia, and tuber blight, Suitable for home-made French fries, and fresh potatoes.

22. Saviola

.It was released in 2014 by Agrico East Africa Ltd. It takes 4 months to maturity. It has Long oval-shaped big size tubers, high yielding medium early variety, white skin and crème flesh tubers, Fresh potatoes.

23. Toluca

It was released in 2014 by Agrico East Africa Ltd. It takes 4 months to maturity. It has late blight resistance, high dry matter content, suitable for French fries and crisps, shallow eyes, medium term storage, excellent cooking quality- rather firm.

24. Mayan gold

It was released in 2014 by MMUST/ Kenya Agricultural and Livestock Research Institute (Karlo). It takes 120 days to maturity. Its tubers have smooth skin, yellow flesh, eyes medium depth, no skin pigment, fairly resistant to late blight on foliage (phytophthora infestans) and powdery scab (spongospora subterranean), fairly resistant to PVY and PLRV, good cooking quality.

25. Caruso

It was released in 2014 by Den Hartigh. It takes 90-100 days to maturity. It is a high yielding crisping variety, low content of reducing sugars, round shape with shallow eyes, resistant to PCN Ro1-4, high resistance to late blight, tuber blight, common scab and internal rust spot.

26. Destiny (SL99-4005)

.It was released in 2015 by Agrico East Africa Ltd. It takes 6 months to maturity. It is multi-purpose, table, crisp.

27. Shangi

It was released in 2015 by the Kenya Agricultural and Livestock Research Institute (Karlo). It takes 3-4 months to maturity. Benefits, early maturity, short dormancy, highly prolific, fast cooking, versatile use i.e. can be used for domestic consumption and processing into chips and crisps.

28. Rumba

It was released in 2015 by Bioplant GmbH, GERMANY. It takes 4-5 months. It is resistant to PCN, resistance to common scab, spraing, mechanical damage.

29. Cip393077

159: It was released in 2015 by CIP SSA and Kenya Agricultural and Livestock Research Institute (Karlo). It takes 3-3.5 months. It has moderate resistance to late blight, resistance to Potato Leaf Roll Virus and Potato Virus-X

30. Carolus

It was released in 2015 by the Agrico East Africa Ltd. It takes 4 months to maturity. It is suitable for french fries.

31. Laura

It was released in 2016 by the Bioplant GmbH. It takes 4-5 months to maturity. It is good in processing variety, french fries, medium cooking (B), short dormancy.

32. Lady Amarilla

It was released in 2016 by C. Meijer B.V. It takes 3 months to maturity. It is good for processing, long storage.

33. Unica

It was released in 2016 by the CIP and Kenya Agricultural and Livestock Research Institute (Karlo). It takes 80-90 days to maturity. Its resistance to PVX, PVY and PLRV, moderately resistance to Root Knot Nematode, good processing and also table variety, moderately light chipping colour, rich in vitamins C, Iron and Zinc.

34. Lenana

It was released in 2017 by CIP SSA and Kenya Agricultural and Livestock Research Institute (Karlo). It takes 80-100 days to maturity. It is tolerant to; - late blight, potato Virus X & potato Leaf Roll Virus; dry matter 22%; good for French Fries & crisps.

35. Wanjiku

It was released in 2017 by CIP SSA and Kenya Agricultural and Livestock Research Institute (Karlo). It takes 90-100 days to maturity. It is tolerant to; - late blight, potato Virus X & extremely tolerant to potato Virus Y; dry matter 21%; good for french fries & crisps.

36. Nyota

It was released in 2017 by CIP SSA and Kenya Agricultural and Livestock Research Institute (Karlo). It takes 90-100 days to maturity. It is tolerant to late blight; tolerant to heat; dry matter 20%; table variety.

37. Chulu

It was released in 2017 by CIP SSA and Kenya Agricultural and Livestock Research Institute (Karlo). It takes 80-100 days to maturity. It is tolerant to; - Late Blight & Potato Virus X; tolerant to heat; dry matter 24%; table and processing variety.

38. Acoustic

It was released in 2017 by C. Meijer BV. It takes 120 days to maturity. Its resistance toward late blight, wart disease fysio 1, Globodera rostochiensis pathotype 1

2. Royal

It was released in 2014 by the Africalla. It takes 4 months to maturity. It has a high dry matter content and low sugar content, very suitable for French fries (chips), Crisps, flakes and granulate.

3. Jelly

It was released in 2014 by the EUROPLANT Pflanzenzucht GmbH. It takes 5 months to maturity. Purpose: French Fries, ware potato, medium cooking (B), Very low discoloration after boiling, yellow skin, yellow flesh, Late blight, bacterial wilt, virus resistance, good drought and heat tolerance, short dormancy, High marketable yields, medium sized to large sized tubers, uniform grading.

4. El mundo

It was released in 2014 by the Africalla. It is drought tolerance, late blight tolerance.

5. Faluka

It was released in 2014 by the Agrico East Africa Ltd. It takes 3.4-5 months to maturity. It has long shape tubers, white skin with white flesh tubers, utilization - Fresh potatoes.

6. Markies

It was released in 2014 by the Agrico East Africa Ltd. It takes 4 months to maturity. It has long oval shape, white skin, crème flesh tubers, strong canopy.

7. Sagitta

It was released in 2014 by the HZPC Holland B.V. It takes 120 days to maturity, multi purpose variety: French Fries, Fresh, Crisps. Good dry matter content, medium long dormancy, suitable for second crop, medium early, resistant to viruses and cyst nematodes.

8. Derby

It was released in 2014 by the HZPC Holland B.V. It takes 100 days to maturity. It is known for early maturing, good resistance to late

High input intensive management

1. Musica

It was released in 2014 by the C. Meijer BV. It takes 120 days to maturity. It is, resistance toward wart disease fysio 1, G. rostochiensis pathotype 1 and 2/3 and partial resistance towards G. pallida pathotype

blight, multi purpose variety: Crisps, french fries, fresh, short dormancy, good dry matter content, good scab and virus resistance, resistant to cyst nematodes.

9. Ambition (AR 96-0010)

It was released in 2014 by the Agrico East Africa Ltd. It takes 150 days to maturity. It is good for french fries, easy to grow, vigorous plants, large uniform oval/long big tubers, shallow eyes, moderate dry matter content, good resistance to Fusarium, Erwinia, Potato Cyst Nematode Ro and 4, Yntn-virus.

10. Taurus

It was released in 2015 by the HZPC Holland B.V. It takes 4 months to maturity. This variety is suitable for processing, especially for the production of crisps.

11. Kuroda

It was released in 2015 by the Agrico East Africa Ltd. It takes 6 months to maturity. It has -Fresh table consumption.

12. Zafira

It was released in 2015 by the Agrico East Africa Ltd. It takes 6 months to maturity. It has -Fresh table consumption.

13. Milva

It was released in 2015 by the EUROPLANT PFLANZENZUCHT GmbH. It takes 3-4 months to maturity. It is Fresh market potato variety, good resistance to Potato Cyst Nematode, late blight, Black leg and common Scab.

14. Challenger

It was released in 2015 by the HZPC Holland B.V. It takes 4.5 months to maturity. It is very suitable for the processing industry (french fries) and fresh market. Good resistance to Alternaria and Common scab.

15. Evora

It was released in 2015 by the HZPC Holland B.V. It takes 3.5-4 months to maturity. It is a fresh market variety, early maturing, big size tubers.

16. Panamera

It was released in 2015 by the HZPC Holland B.V. It takes 4.5-5 months to maturity. It is highly tolerant to climatic stress, good Late blight and scab resistance, good dry matter content, fresh market variety.

17. Rodeo

It was released in 2015 by HZPC Holland B.V. It takes 4.5 months to maturity. It has a fresh market variety with good dry matter content, moderate resistance to common scab.

18. Sifra

It was released in 2015 by HZPC Holland B.V. It takes 4.5 months to maturity. It has big size tubers, resistant to cyst nematodes and Wart disease, good resistance to common scab, good dry matter content, fresh market variety.

19. Voyager

It was released in 2015 by HZPC Holland B.V. It takes 4.5 months to maturity. It has good yield, good late blight resistance, suitable for fresh market and French Fries, good common scab resistance.

Procedures of availing certified planting material

1. Registration of all persons/ companies wishing to deal in certified seed- anyone who intends to do seed business (marketing, processing or production) has to be registered and licensed by kephis. These

include seed companies, seed growers and seed sellers

2. National performance trials (NPT) and Distinctiveness, Uniformity and Stability (DUS) tests of any new varieties that are intended to be released for commercialization in the country
3. Release and gazettement of the new varieties that meet the release criteria.
4. Seed multiplication of the new varieties by seed companies. At this point the seed companies have to apply to KEPHIS for registration of the seed crops as well as the subsequent certification of the same.
5. Field inspections are done at different growth stages of the crop to ensure trueness to type and freedom from diseases as per the standards set out in the Seeds and Plant Varieties regulations.
6. At harvesting, samples are taken to test for seed borne diseases such as bacterial wilt. If the seed tubers are found healthy, grading is done by the seed company and Kephis confirms by doing a lot inspection.
7. Samples for post control testing are taken and the seed company is free to request for labeling of the seed lots. Labelling is done by KEPHIS and the seed is ready for sale to farmers

Measures applied to those contravening the above requirements

Any person contravening the requirements of the Seeds and Plant Varieties Regulations is guilty of an offence and is prosecuted in a court of law for fining or imprisonment. The seeds and Plant varieties regulations, 2016 also gives Kephis the mandate to revoke the licenses of seed companies who breach the requirements or are involved in malpractices ☐

Avocado, the next growth frontier for Kenya farmers

As the volumes picked up in the 1980's a lot of work was done by a number of exporters to put in infrastructure to handle the larger quantities that were coming through and to develop markets and promote sales in Europe and the Middle East



Participants at the 2018 Fresh Produce Africa held at the Visa Oshwal Centre in Nairobi

Avocados in Kenya are a very important cash earner for the horticulture sector and in particular for small holder farmers. With the initial smallholder plantings of Fuerte in the early 1970's in the Central Province and around the Mt Kenya region, production started to kick in at the end of the decade. The first avocado waxing machine was brought to Kenya in the late 1970's and there were small loads shipped by air to Germany. Around 1979 the first sea shipment trial consisting of a mixed container of fresh pineapple & avocados was packed in Thika and shipped via Mombasa, where it waited a week for loading onto a

vessel for destination Hamburg. The container was not refrigerated and arrived in poor condition.

As the volumes picked up in the 1980's a lot of work was done by a number of exporters to put in infrastructure to handle the larger quantities that were coming through and to develop markets and promote sales in Europe and the Middle East. There was investment in avocado packing lines, cold-storage facilities and a switch to exports from air shipments to 40' reefers by sea. There were numerous issues that had to be dealt with including the transfer of technology regarding the washing, drying, waxing, sizing & packing of fruit, fruit handling and post harvest cooling temperatures, packaging strong enough to sustain

the trip to Mombasa and the 18 day journey, paletization of the boxes on wooden pallets, loading the pallets into containers, setting up the containers with the right temperature and humidity settings, finding clip-on generators, driving down a very poor quality single lane highway to Mombasa, working with the port to develop plug-in-points, working with the Customs & Excise Department and finally loading the containers onto the vessels that were charging over US\$12,000.00 in sea freight charges to Europe. Export documentation was not geared up for sea-freight and needed work with the HCDA and the Central Bank of Kenya on understanding the modalities of sea-freight.

Majority of avocado producers are small scale farmers who have between 5 - 20 trees per homestead, 20% medium scale farmers, who have over 100 trees and then 10% that are commercial plantations like Kakuzi, Mara Farming and Sameer group who have over 10 Hectares and more in production.

Central province is the largest producer of avocado in Kenya and the orchards are mainly found in 3 districts namely Kiambu, Thika and Muranga. The dominant variety is Fuerte (about 70%) which is the primary Green skin variety exported. Apart from Eastern province, the other provinces have local varieties like Puebla, which are not as popular any longer in the export market but serves as a good rootstock.

The main avocado varieties grown for export market are Hass and Fuertes. In addition, three others are traded in the local market which includes Puebla, Duke, and G6. In 2016, avocado contributed Kshs 4.63 billion from 246,057 tons of fruits accounting for 8% by value of the fruit sub-sector. The value increased from 4.45 Billion in 2015 to 4.63 in 2016 which was a 4.2% increase from 2015. This was due to improved prices in the international market as well as opening of the Russian market that demands high volumes of Fuertes avocados which were not very popular in the European market.

The area under production increased from 10,383 Ha in 2015 to 11,017 in 2016 a 6.1% change that was attributed to planting of new orchards in non-traditional areas of the rift valley while production increased from 230,984 tons to 246,057 in 2016 representing 6.6% increase. The leading county was Murang'a that accounted for 53% by value of produce followed by Kisii, Kiambu and Nyamira that contributed 11%, 9% and 4% respectively of the total. The factors that led to a high value in Murang'a were county government intervention in marketing as well as inclusion of Kakuzi avocado data that



was previously unreported. Although the avocado exports have marked an increased growth to the EU market, there were a host of constraints and challenges faced by the Kenya avocado export sector.

The hard work has been done. With the global population now at 7 billion and growing to 9 billion by 2050, the demand for food and in particular nutritious fruit and vegetables will grow. The emphasis is now to scale up the current production to meet this demand. Kenya has all the ingredients for 52 week supply.

The horticulture industry needs to focus on the market requirements

and then work backwards to ensure that the Public & Private sectors create the environment for this growth to happen; to remove the bottlenecks and to facilitate the production, processing, value addition, logistics within Kenya and ensure that the necessary Trade agreements and Phytosanitary Passports for the potential markets are in place so that an aggressive marketing drive then goes to establish Kenya as the only source of quality avocados year round! Kenya has experienced a rise in avocado production due to increased demand in both export and local markets in the recent past □



Danny Coyne, soil health scientist at IITA explains to participants the impacts of nematodes on the root structure during a training session at Interplant Roses in Naivasha

in Kenya is lost to nematodes leading to a financial deficit of 19,580 per hectare. Moreover, an additional 2150 per hectare is spent each year in attempts to manage nematode pests.”

The activities by IITA, icipe and Syngenta to address nematodes in the flower industry started with an awareness and training session held recently at Interplant Roses East Africa Ltd in Naivasha — Kenya’s premier floriculture region — attended by over 90 participants including production and farm managers, plant pathologists and agronomists from across the country.

Through practical field demonstrations, structured presentations and highly interactive discussions, the team provided background information on nematodes, for example, basic knowledge on their biology and life cycle. The damage and symptoms caused by nematodes was also outlined: primarily that the pests infect plant roots causing direct yield loss through destruction of root tissue and by preventing water and nutrient uptake. In addition, nematodes

indirectly lead to secondary fungal or bacterial infections as a consequence of wounds caused by the pests feeding on plant roots. Moreover, participants were enlightened on proper detection and sampling of nematodes; important information towards countering frequent misdiagnoses of damage by the pests as nutritional disorders or water stress. Further, the presenters emphasised the wide range of plant species and plant types affected by certain species of nematodes, and the immense economic impact they are capable of causing.

Solutions for management

“The complexity of the nematode species, fast reproduction, astonishing range of crops and plant species and their involvement in disease transmission, means that there is no silver bullet for the control of these pests,” said Danny Coyne, soil health scientist, IITA.

Solveig Haukeland, nematologist, icipe, added: “Against this background, our recommendation for the nematode challenge is the use of integrated

pest management, or IPM, an approach that focuses on long-term prevention of pests or their damage through a combination of effective and environmentally sensitive techniques, and minimal use of pesticides. Between them, icipe, IITA and Syngenta have developed a range of IPM approaches that may be useful to the flower industry.”

The event rounded off with a presentation on entomopathogenic nematodes, which are harmful to insects, and therefore hold potential benefits for insect pest control. “Entomopathogenic nematodes harbour insect killing bacteria, which are released by the nematode upon entering the insect body, killing the insect within 48 hours,” noted Dr Haukeland. “By exploiting these nematodes, effective biological control options against susceptible insect pests have been developed across the world. We are conducting studies to investigate how we can harness and exploit these to benefit farmers in Kenya and across Africa.”

“This awareness and training session demonstrated a rewarding and refreshing example of research and development, public and private partners combining forces for the greater benefit of the agricultural in general, and the horticultural sector in particular,” said Dr Coyne. “The positive response from the Kenyan floriculture community, seen in their overwhelming attendance and active participation, provides strong evidence of the interest in these neglected and little understood, yet devastating pests, and in knowledge led solutions for their management.”

Importantly, the success of the forum strengthens the resolve and commitment by Syngenta, icipe and IITA to increase appreciation, understanding and training in nematology, as a crucial component of improved pest management and environmental protection in Kenya, and a definite strategy towards realising the potential of agriculture as the cornerstone of Africa’s development □



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IFTEX HANDSHAKE GALORE

Trade PS Dr Chris Kiptoo shakes hands with winners of the best stands at IFTEX 2018



IFTEX 2018 MOMENTS





Hortinews Directory



Associations

Associations	Country	Phone	Email
Kenya Flower Council	Kenya	254-733639523	info@kenyaflowercouncil.org
Fresh Produce Exporters Association Of Kenya	Kenya	254-20 205160333	info@fpeak.org
Tanzanian Horticultural Association	Tanzania	255 (27)2544568	info@taha.or.tz
Ethiopian Horticulture Producers Exporters	Ethiopia	251-116636750	info@ethionet.et
Kenya Horticulture Council	Kenya		

Flower Farms in Kenya

Region	Altitude	Region	Altitude
Lake Naivasha Region	6178ft	Mt.Kenya Region	6358-7057 ft
Nakuru Region	6070ft	Limuru-Rumuruti-Olkalau Region	6024-7802 ft
Nairobi Region	5515ft	Kericho-Kitale-Eldoret Region	6060-6995 ft
Athiriver-Kajiado Region	5649ft	Thika-Juja-Kiambu Region	5649 ft

Breeders / Propagaters

ORGANISATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Dummen Orange	Flower Breeder	Mr.Steve Outram	254-733-609863	s.outram@dummenorange.com
Schreurs East Africa Ltd.	Flower Breeder	Mr.Haiko Backer	Tel:+254 203566135	sales@schreurskenya.com
Wac International	Flower Breeder	Mr.Richard Mcgonnell	254-722-810968	richard@wac-international.com
Florensis Hamer	Flower Breeding	Mr. Eddy Verbeek	020 50010	verbeek@florensis.com
Interplant Roses	Flower Breeding	Mr.Gavin Mouritzen	254-729-406668	info@interplantea.co.ke
United Selections	Rose Breeder	Mr.JellePosthumus	254-2-3656135	jposthumus@united-selections.com
Solo Plant Kenya Ltd	Breeding	Tomer Weiss	+254 (0)715 631 373	tomersolo@soloplant.co.ke

1. Lake Naivasha Region

ORGANISATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Florema(k)ltd	Begonia	Mr. perter maina	254-050-2021075	
Carzan flowers	Carnations	Mrs. Carol Manji	254707110030	info@carzankenya.com
Loldia	Cut flowers	Mr. Gary	0721 237936	
Longonot horticulture	Cut flowers	Mr. Shado rai	254-050501473	
Blue sky	Cut flowers	Mr. Mike	0720 005294	info@blueskykenya.com
Indu farm	Cut flowers	Mr. Wesley Koech	0715 546908	
Leekem holding ltd.	Cut flowers	Mrs. Margaret Muthoni	254-720-267004	leekement@gmail.com
Rainforest	Cut flowers	Mr.Fabian Philippart	0716 686998	fphilippart@fleurafrica.com
Savannah flowers	Cut flowers	Mr. Ignaitus lukulu	0728 424902	i.lukulu@savannahinternational.com
Star flowers	Cut flowers	Mr.dinkar	0722 203750	dinkar@vegpro-group.com
Subati	Cut flowers	Mr. Naren Patel	0712 584124	naren@subatiflowers.com
Wildfire flowers	Cut flowers	Mr.patrick mbugua	254-722-204669	office@wildfire-flowers.com
Aquila development company	Cut flowers	Mr.abhay marathe	254-722-205368	info@aquilaflowers.com
Beauty Line	Gypsophila	Mr.Peter Gathiaka	0722 676925	
Hamwe Ltd.	Hypericum	Mr.Adrew Khaemba	Tel: +254722431170	hamwe.production@kariki.biz
Sun Buds	Hypericum	Mr. Paul Kamau	Tel:+254 728339953	sunbudsltd@gmail.com
Oserian Development Company	Rose & Fillers	Mary Kinyua	Tel: +254 721299008	mary.kinyua@oserial.com
Oserian Flowers Limited	Carnations & Fillers	Mr.Hamish Ker	Tel: +254 722204701	md@oserialflowers.com
Colour Vision Roses Ltd	Rose Breeders	Mr.Peter Vandemeer	254-05050310	petervandemeer@terranigra.com
Rift Valley Roses	Roses	Mr.Peterson Muchiri	254-721216026	
Van Den Berg Roses	Roses	Loek Van Adrichem	+31 6 31 791 898	loek@bergroses.com

Aquilla	Roses	Mr.Yogesh	050 506609	info@aquilaflowers.com
Bigot Flowers	Roses	Mr.Jagtap K	254-722205271	jagtap.kt@bigotflowers.co.ke
Bila Shaka	Roses	Ms. Judith Zuubier	+254(0)72 220 4489	info@zuubier.com
De Ruiters	Roses	Fred Okinda	+254(0)722 579204	fred.okinda@deruiter.com
Finlay's Kingfisher	Roses	Mr. Charles Njuki	Tel: +254-724391288	Charles.njuki@flamingo.net
Galaxy	Roses	Mr. Kiran		kiran@vegpro-group.com
Groove	Roses	Mr.John Ngoni	Tel: 0724448601	groovekenya@gmail.com
Harvest Flowers	Roses	Mr Phanael Ochunga	0722 506026	phanael.ochunga@gmail.com
Karuturi Flowers	Roses	Mr.Sylvester Saruni	Tel: +254 722873560	henry.muller@karuturi.com
Kongoni Farm	Roses	Dinkar	0728 608785	dinkar@vegpro-group.com
Larmona	Roses	Fiona	254 722 564 089	fiona@lamornaflowers.com
Maridadi Flowers Ltd	Roses	Jack Kneppers	07-33333289	jack@maridadiflowers.com
Mbegu Farm	Roses	Mr. David Mousley	Tel:0722 833 122	mbegufarm@iconnect.co.ke
Nini Farm	Roses	Billy	254 723 786 003	billyc@niniltd.com
Shalimar Flowers (K) Ltd	Roses	Export Manager	0722 811832	info@eaga.co.ke
Stockman Rozen	Roses	Mrs. Sarah Tham	0720 603990	info@srk.co.ke
Twiga Roses	Roses	Mr.Pius Kimani	0721 747623	pius.kimani@gmail.com
Panda Flowers	Roses	Charkara	0786 143515	chakra@pandaflowers.co.ke
Finlay's Flamingo	Roses and Fillers	Mr.Peter Mwangi	Tel:+254 722204505	peter.mwangi@flamingo.net
Colour Crops	Summer Flowers			
Esmeralda Breeding	Summer Flowers	Mr.Loui Hooyman	31-297-385444	info@esmeraldabreeding.com
Multgrow Investments	Summer Flowers	Mr.Peter Murimi Mbugua	254-724-977259	peter_murimi@yahoo.com
Kentalya	Cut Flowers	Mrs.Lynette	0733 549773	lynette@kentalya.com

2. Nairobi Region

ORGANISATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Black Tulip Group	Cut Flowers	Mr.Mohan Choudhery	254-722-825429	info@blacktulipflowers.ae
Caly Flora Ltd .	Cut Flowers	Mrs.Catherine Gichungu	254 725456930	info@calyflora.co.ke
Everest Enterprises Ltd.	Cut Flowers	Mr.John Karuga	254-722-720876	jkaruga@everest.co.ke
Flora Delight	Cut Flowers	Mr.Marco Van Sandjik	254-722-384188	info@floradelightkenya.com
Particle Blooms Co. Ltd.	Cut Flowers	Mr.Caleb Amunga	254-704-040101	info@particleblooms.com
Phinna Flowers Ltd.	Cut Flowers	Mrs.Ruth Thuo	254-723-582476	phinnaflowers2014@gmail.com
Redhill Flowers	Cut Flowers	Mr.Isaac Bwire Ombunda	254-702-344047	redhillflowers@yahoo.com
Rose Bunk International	Cut Flowers	Mr.Nahashon Macharia	254-773-754140	nahashon@rosebunkintl.com
Sian Agriflora Ltd	Cut Flowers	Mr.Jos Van Der Venme	254-725-961961	info@sianroses.co.ke
The Flower Hub	Cut Flowers	Mr.Stephen Swainston	254-722-509970	info@theflowerhub.com
Tripple F Agencies	Cut Flowers	Mr.Amos N. Wakiria	254-735-405982	wakiria@fagencies.co.ke
Van Kleef Kenya	Cut Flowers	Mrs.Judith Zuurbier	254-722-364943	judith@vankleef.nl
Winchester Farm	Cut Flowers		254-0722-203630	info@mzurrieflowers.co.ke
Zaina Blooms	Cut Flowers	Mr.Michire Mugo	254-736-080070	zainablooms@gmail.com
Credible Blooms	Roses	Mr.Francis	020 2102019	info@credibleblooms.co.ke
Flamingo Flora	Roses	Sam	254-:0721993857	s.ivor@flamingoflora.co.ke
Karen Roses	Roses	Mrs.Juliana Rono	254-722-717187	sales@karenroses.com
Kreative Roses Ltd.	Roses	Mr.Bas Smit	254 733501640	info@kreative-roses.com
Lakshmi Group Ltd.	Roses	Mr. Serghei	254 714551969	serghei.lakshmigroup@gmail.com
Magana Flowers	Roses	Mrs Ann Gitari	254-20-2017651	marketing@maganafloowers.com
Magnate Flowers	Roses	Mrs.Gladys Muthoka	254-722-777051	magnateflowers@gmail.com
Mzurrie Flowers	Roses	Mrs.Irne Njeru	254-722-203630	irene@winchester.co.ke
Shallimar Flowers Ltd	Roses	Mrs.Elizabeth Wahogo	254-738-391832	elizabethw@eaga.co.ke

3.Mt.Kenya Region

ORGANISATION	LOCATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Mount Kenya Alstroemeria	Nanyuki	Cut Flowers	Mr.Edwin Van Der Veen	254-718-240581	info@mountkenyaalstroemeria.co.ke
Bondet	Nanyuki	Erygium	Richard Fernandes		

Kariki Limited	Nanyuki	Hypericum		0722 50 99 19	info@kariki.biz
Live Wire Ltd	Nanyuki	Hypericum And Lilies	Mr.Esau Onyango	0728 606872	info@livewire.co.ke
Finlays Sirimon	Timau	Lilies	Ms.Purity Thigira	0733606411	purity.thigira@finlays.net
Batian Fowers	Timau	Roses	Mr.G.Muriungi/Dirk Looj	0720 102237	dirk@batianflowers.com
Bloomingdale Roses	Timau	Roses	Mr.Sunil Chaudhari	0732 373322	sunil@bloomingdaleroses.com
Bogmack Farm	Timau	Roses	Mr.Anderson	0722 350020	kathendusn@yahoo.com
Equinox	Timau	Roses	Mr. Rod Jones	+254 722 204271	rod.jones@equinoxflowers.com
Fides Kenya Ltd	Embu	Roses	Mr.Francis Mwangi	254-06830776	info@fideskenya.com
Lobelia Farm	Timau	Roses	Mr.,Peter Viljoen	254-06241060	
Lolomarik	Nanyuki	Roses	Mr. Topper Murry	0715 727991	topper@lolomarik.com
Protea Farm	Timau	Roses	Mr.Philip		info@lobelia.co.ke
Sunland Roses	Timau	Roses	Mr.Peter Viljoen	254-702-095696	sales@sunlandroses.com
Tambuzi	Nanyuki	Roses		+254 (0)722 716 158	tambuzi.sales@tambuzi.co.ke
Timaflor Ltd.	Timau	Roses			info@timaflor.nl
Timau Flair	Timau	Roses	MR.Philip Ayiecha	254-723383736	
Uhuru Flowers	Timau	Roses	Mr. Ivan Freeman	Tel:+254722863252	ivan@uhurufowers.co.ke
Vegpro-K Ltd	Timau	Roses	Mr.Vivek Sharma		vivek@vegpro_group.com
Kisima	Timau	Roses and Lilies	Mr.Martin Dyer	+254 (0)722 509 830	info@kisima.co.ke

4. Nakuru Region

ORGANISATION	LOCATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Bliss Flora Ltd.	Nakuru	Cut Flowers.	Mr.Shivaji Wagh	254-720-895911	shivaniket@yahoo.com
Carzan	Rongai.	Cut Flowers.	Francis	254-0720 890920	info@carzankenya.com
Kudenga Flowers	Mau Summit	Cut Flowers.	Mr.Joseph Juma	254-0725 643942	kudenga.fm@kariki.biz
Molo Greens Ltd	Molo North	Cut Flowers.	Mr.Justus Metho	254-722-755396	info@mologreens.com
Molo River Roses	Muserochi	Cut Flowers.	Mr.Alice Mureithi	254-0724 256592	andrewwambua@yahoo.com
Roseto Limited	Rongai	Cut Flowers.	Mr.Yogheesh		farm.florenza@megaspingroup.com
Kariki Limited	Molo	Hypericum		+254 722 50 99 19	info@kariki.biz
Amor	Nakuru	Roses	Mr.Ketan Jerath	254-738-119774	flowers@xflora.net
Baraka Farm	Nakuru	Roses	Lucy	254-0720 554106	lucy@barakaroses.com
Buds&Blooms-Bliss Flora	Nakuru	Roses	Mr.Shivaji	254-0720 895911	shivaniket@yahoo.com
Elbur Flora	Elburgon	Roses	Peter Kairu	254-51343473	eflora@africaonline.co.ke
Fontana Ayana	Nakuru	Roses	Mr.Gideon Maina	254-0721178974	gideon@fontana.co.ke
Fontana-Akina	Nakuru	Roses	Mr.Girish Appana	254 722728441	girish@fontana.co.ke
Kimman Roses Ltd.	Elburgon	Roses	Mr.Daniel Moge Maina	254-721-734104	kimmanexp@gmail.com
Mau Flora	Nakuru	Roses	Mahesh	254-0787 765684	mahesh@mauflora.co.ke
Milmet	Nakuru	Roses	Pravin		pravinyadav.29@gmail.com
Omang-Africa	Nakuru	Roses	Mr.Inder Nain	254 733724029	flowers@xflora.net
Porini	Nakuru	Roses	Mr.Pitambar Ghahre	254-0726 774955	porini@isinyaroses.com
Pp Flora	Nakuru	Roses	Prakash	254-0718 045200	info@fantasy-flora.com
Preesman Kenya	Nakuru	Roses	Michael Kikwai	254-0720574011	kikwai1980@yahoo.com
Ravine Roses	Nakuru	Roses	Mr.Peter Kamuren	254-0722 205657	pkamuren@karenroses.com
Redwings	Kabarak	Roses	Mr.Sayer Simon	254-0722 578684	sayer@redwingtld.co.ke
Subati Flowers	Subukia	Roses	Mrs. Jennifer Sassi	+254 742 144493	jennifer@subatigroup.com
Vankleef	Nakuru	Roses	Judith Zuurbier	254-0722 364943	judith@vankleef.nl
Xpression Flora Ltd.	Njoro	Roses	Mr.Mangesh	Tel: 720519397	info@xflora.net
Sian Agriflora (Sian Roses)	Nakuru	Roses/Lilie	Mr.Jos Van Der Venne	254 722203630	info@sianroses.co.ke
Jatflora	Gilgil	Summer Flowers	James Oketch	254 724418541	jatflora@gmail.com
Morop	Bahati	Summer Flowers	Wesley Tonui	254-0720 983945	
Flora Ola	Solai		Mr.Wafula	Tel: 0708382972	floraolald@gmail.com

5. Thika -Juja-Kiambu Region

ORGANISATION	LOCATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Zena Roses	Thika	Carnations,Roses	Mr.Rakesh	Tel: 0724631299	info@zenaroses.com
Selecta Kenya/Kpp	Juja	Cut Flowers	Mr.Wilson Kipketer	020 352557	w.keter@selectakpp.com
Pollen Sygenta Ltd.	Ruiru	Cuttings	Mr Daniel Kisavi	Tel: 733603530	Daniel.kisavi@sygenta.com
Munyu Growers	Thika	Flower Grower & Exporter	Mr.Muthom Ngaru	254-721-956307	munyugrowers@gmail.com

Riverdale Blooms Ltd swiftkenya.com	Thika	Flower Grower & Exporter		Mr.Antony Mutugi	020 2095901	rdale@
Kariki Limited	Thika	Hypericum		+254 722 50 99 19		info@kariki.biz
Transebel Ltd	Thika	Roses	Brian Wahome	+254 722 255322		brianwahome@transebel.co.ke
Enkasiti Flowers	Thika	Roses	Mr.Thambe	Tel:+254 724722039		enkasiti@gmail.com
Gatoka Farm	Thika	Roses	Christopher Gacheru	+254 733 619505		chris@gatokaflowers.com
Penta Flowers Ltd.	Thika	Roses	Mr. Tom Ochieng	Tel:+254 733625297		tom@pentaflowers.co.ke
Simbi Roses Ltd.	Thika	Roses	Ms.Pauline Nyachae	Tel: +254204448230		Pauline@sansora.co.ke
Windsor Ltd	Thika	Roses	Mr.Pardeep	254-0674208		farm@windsor-flowers.com
Ever Flora Ltd.	Juja	Roses	Mr.Khilan Patel	Tel: 0675854406		everflora@dmbgroup.com
Kenflora	Kiambu	Roses	Mr,Aleem Abdul	254-722311468		info@kenflora.com
Valentine Kibubuti	Kiambu	Roses	Mrs. Suzan Maina	Tel:0203542466		info@valentineflowers.com
Red Lands Roses Ltd.	Ruiru	Roses	Mrs.Isabelle Spindler	254-733-600504		gm@redlandsroses.co.ke
Branan Flowers Ltd.	Thika	Roses Growers	Mr.Brian Wahome	254-734-424648		brianwahome@transebel.co.ke

6. Kajiado – Athi-River Region

ORGANISATION	LOCATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Carnation Plants Ltd	Athi River	Carnations	Mr.E.Fieldman	254-2045162	evi@exoticfields.com
Waridi Ltd	Athi River	Roses	Mr.Pd Kadlag	254-724407889	kadlag@waridifarm.com
Harvest Flowers	Athiriver	Roses	Monicah	+254 722294963	salesadmin@harvestflowers.com
Shade Horticulture	Isinya	Cut Flowers	Mr.Ashutosh Mishra	254-0722 792018	
Desire Flora K.Ltd.	Isinya	Roses	Mr.Rajaat Chaohan	Tel: +254 0724264653	rajatchaohan@hotmail.com
Isinya Roses	Isinya	Roses		+254 728 689 000	info@isinyaroses.com
Maua Agritech	Isinya	Roses	Mr.Kori	254-722206318	gm@mauaagritech.com
P.J. Dave	Isinya	Cut Roses	Mr.Ananth Kumar	254-729-405450	marketing@pjdave.com
Maasai Flowers	Kitengela	Roses		+254 714 065 245	
Charm Flowers	Kitengela	Roses	Sales Manager	+254 733 753149	admin@charmflowers.com
Maua Agri Tech Ltd	Kitengela	Cut Flowers		254 0722206318	kori@mauaagritech.com
Rose Plant	Kitengela	Roses	Mr.Atenus		
Sian Maasai Flowers	Kitengela	Roses	Mr.Andrew Tubei	254-722728364	atubei@sianroses.co.ke
Sian Roses	Kitengela	Roses	Mr.Jos Van Der Venne	254-0202170540	info@sianroses.co.ke
Afriscan Kenya Ltd.	Kiserian	Cut Flowers	Mr.Charles Mwangi	254-722-711925	charles.mwangi@afriscan.co.ke
Kordes Roses East Africa Ltd	Masai West Road	Roses	Roses	Mr.Christian Meuschke	254-0733 363642
info@kordesroses-ea.com					
Ngong Roses	Ngong	Roses	Mr. Charles Maina	020 2700660	ngongroses@capstoneonline.co.ke

7.Limuru-Rumuruti-Olkalau Region

ORGANISATION	LOCATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Tropiflora	Limuru	Carnations	Mr. Krasensky	254 0724646810	
Leekem Holdings Ltd	Nyandarua	Cut Flowers	Mrs.Margaret Muthoni	254-0720 267004	leekement@gmail.com
Tegmak Bloom	Nyandarua	Cut Flowers	Mr.Edward Kaguchu	254-722-292242	tegmakbloomsLtd@gmail.com
Highlands Plants	Olkalau	Cut Flowers	Mr. Leonard Kanari	254-0721345829	sales@highlandplants.co.ke
Aaa Roses	Rumuruti	Cut Flowers	Ms.Jennifer Sassi	254-20-4453970	sales@aaagrowers.co.ke
Terrasol	Limuru	Cuttings		254-0722 455996	
Black Petals Ltd.	Limuru	Roses	Mr.Nizra Junder	254-0722848560	nj@blackpetals.co.ke
Elbur Flora	Elburgon	Roses	Peter Kairu	254-51343473	eflora@africaonline.co.ke
Kimman Roses Ltd.	Elburgon	Roses	Mr.Daniel Moge Maina	254-721-734104	kimmanexp@gmail.com
Suera Flowers Limited	Nyahururu	Roses	Mrs.Peris Wanbui Mureithi	254-724-082797	perismureithi@yahoo.com
New Hollands Flowers	Olkalau	Roses	Mr. Francis	254-0700718570	
Golden Tulip	Olkalau	Roses	Umesh	254-0739729658	
Mahee Flowers Ltd	Olkalau	Roses	Vijay Kumar	254-020822025	info@eaga.co.ke
Africa Blooms	Rumuruti	Roses	Samir Chandokrkar	254-0735-384552	
Primarosa Flowers	Nyahururu	Roses	Mr.Vishal Metha	254-734-88223	mvishal@primarosaflores.com
Flora Delight	Limuru	Summer Flowers	Mr.Hosea Andanyi	254-0724373532	hosndai@yahoo.com
Kemaks Blooms Limited	Aberdare Ranges	Summer Flowers	Mr.Peter Gakuna	254-792-705160	kemaksblooms@gmail.com
Hatabor Rainbow Blooms	Limuru	Cut Flowers	Mr.John Ndungu	254-07213850959	

8. Kericho-Eldoret-Kitale

ORGANISATION	LOCATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
Maji Mazuri	Eldoret	Roses		+254 722 203631	info@mzurrieflowers.co.ke
Zena-Asai	Eldoret	Roses		+254 722 935 798	info@zenaroses.com
Zena-Sosiani	Eldoret	Roses		+254 722 935 798	sales@zenaroses.co.ke
Equator Flowers	Eldoret	Roses	Mr.Charles	254-0721 311 279	cmutemba@sianroses.co.ke
Sirgoek Flowers	Eldoret	Cut Flowers	Mr.Andrew Kosgey	254-0725 946429	sirgoek@africaonline.co.ke
Finlay Chemirel	Kericho	Roses	Mr.Aggrey Simiyu	254- 0722601639	aggrey.simiyu@finlays.co.ke
Finlay Lemotit	Kericho	Cut Flowers	Mr. Richard Siele	254-0721 486313	richard.siele@finlays.co.ke
Mount Elgon Orchards Ltd	Kitale	Roses	Bob Andersen	254 0735330592	info@mtelgon.com
Panocal International Ltd.	Kitale	Cut Flowers	Mrs.Mercy Njuguna	254-721-637311	mercy.njuguna@panocal.co.ke



Growers In Uganda

NAME	PRODUCT	LOCATION	CONTACT PERSON	PHONE	EMAIL
Rosebud	Roses	Wakiso	Ravi Kumar	0752 711781	ravi.kumar@rosebudlimited.com
Maiye Estate	Roses	Kikwenda Wakiso	Premal		premal@maiye.co.ug
Jambo Flowers	Roses	Nakawuka Sisia Wakiso	Patrick Mutoro	(254)726549791	pmutoro80@yahoo.co.uk
Pearl Flowers	Roses	Ntemagalo Wakiso	Raghibir Sandhu	0772 725567	pearl@utlonline.co.ug
Aurum Flowers	Roses	Bulega-Katabi Wakiso		Kunal Lodhia Shiva	0751 733 578 kunal@ucil.biz
Eruma Roses	Roses	Mukono	Kazibwe Lawrence	0776 049987	kazibwe@erumaroses.com
Uga Rose	Roses	Katabi Wakiso	Grace Mugisha	0772 452425	ugarose@infocom.co.ug
Kajjansi	Roses	Kitende Wakiso	K.K Rai	0752 722128	kkrai@kajjansi-roses.com
Uganda Hortech	Roses	Lugazi Mukono	Hedge	0703 666301	mdhedge@mehtagroup.com
Fiduga	Chrysanthemums	Kiringente, Mpingi	Jacques Schrier	0772 762555	j.schrier@fiduga.com
Royal Van Zanten	Chrysanthemums	Namaiba Mukono	Jabber Abdul	0759 330350	j.abdul@royalvanzanten.com
Wagagai	Impatiens-Poinstia	Iwaka Bufulu Wakiso	Olav Boender	0712 727377	olav@wagagai.com
Xclusive Cuttings	Chrysanthemums	Gayaza-Zirobwe Road	Peter Benders	0757 777700	pbenders@xclusiveuganda.com



FLOWER AND VEGETABLES FARMS IN TANZANIA

lower Farms in Tanzania

NAME	PRODUCT	LOCATION	CONTACT PERSON	PHONE	EMAIL
Kilifi Flora	Roses	Arusha	Jerome Bruins	255 27-2553633	jbruins@habari.co.tz
Mt. Meru	Roses	Arusha	Tretter	255 27 2553385	office@mtmount-meru-flowers.com
Tengeru Flowers	Roses	Arusha		255 27 2553834	teflo@africaonline.co.tz
Hortanzia	Roses	Arusha	Michael Owen	255 784 200 827	hortanziagm@cybernet.co.tz
Kilimanjaro Flair	Hypericums	Arusha	Greg Emmanuel	255 784 392 716	greg@kilimanjaroflair.com
Multi Flower Ltd	Crysanthemums	Arusha	Tjerk Scheltema	255 27 255 3138	
Fides	Crysanthemums	Arusha	Greg Emmanuel	255 27 255 3148	fides@habari.co.tz
Dekker Bruins	Crysanthemums	Arusha	Lucas Gerit	255 27 255 3138	info@tfl.co.tz
Arusha Cuttings	Crysanthemums	Arusha	Tjerk Scheltema	255 27 250 1990	tjerk@arushacutting.com



ETHIOPIAN HORTICULTURE PRODUCERS EXPORTERS

Flower Growers in Ethiopia

NAME	PRODUCT	LOCATION	CONTACT PERSON	PHONE	EMAIL
Lisen Flowers	Roses	Holeta	Peter Linsen		elinsenroset@ethionet.et
Hanja	Roses	Holeta	Holeta		peter.pardoen@karuturi.com
Alliance Flowers	Roses	Holeta	Navale		navele@nehainternational.com
Ethio Dream Rishi	Roses	Holeta	Holeta	011 23 72335	holeta@jittuhorticulture.com
Holeta Roses Navale	Roses	Holeta	Holeta		navele@nehainternational.com
Supra Flowers	Roses	Holeta	Kaka Shinde	0911 353187	kakashind@rediffmail.com
Agriflora	Roses	Holeta	M.Askokan	0922 397760	flowers@ethionet.et
Ethio-Agricert	Roses	Holeta	Alazar	0910 922 312	alazar@yahoo.com
Addis Floracom P.L.O	Roses	Holeta	Kitema Mihret	0912 264190	tasfaw@addisflora.com
Enyi-Ethio	Roses	Sebata	Teshale	0911 464629	enyi@ethionet.et
Lafto Roses	Roses	Sebata	Andrew Wanjala	0922 116184	irrigation@laftorose.com
Eden Roses	Roses	Sebata	Vibhav Agarwal	0930 011228	vaibhavagarwal1@hotmail.com
Ethio-Passion	Roses	Sebata			roshanmuthappa811@gmail.com
Golden Rose	Roses	Sebata	Sunil		
E.T Highlands	Roses	Sebata		0911 502147	bnf2etf@ethionet.et
Sharon Flowers	Roses	Sebata			saronfarm@ethionet.et
Selam Flowers	Roses	Sebata	Etsegenet Shitaye	0913 198440	etsgshita@yahoo.com
Joy Tech	Roses	Debra Zyeit	Mulugeta Meles	0911 302804	mulugeta@joytechplc.com
Dugda Froliculture	Roses	Debra Zyeit	Sayalfe Adane	0911 504893	general@dugdaflora.com.et
Minaye Flowers	Roses	Debra Zyeit	Eyob Kabebe	011-9728667/8/9	minayefarm@ethionet.et
Bukito Flowers	Roses	Debra Zyeit	Anteneh Tesfaye	0911 615571	
Oilj	Roses	Debra Zyeit	Bas Van Der Lee	0911 507307	b.vanderlee@oiljethiopia.com
Yassin Flowers	Roses	Debra Zyeit	Tesfaye Gidisia	0911 897856	kamevision@yahoo.com
Z.K Flowers	Roses	Debra Zyeit	Abebe Mamo	911526529	abemic/2006@yahoo.com
Friendship Flowers	Roses	Debra Zyeit	Edwin	(251) 911304967	friendship.flowers@yahoo.com
Evergreen Farm	Roses	Debra Zyeit	Hiwot	0912 125065	Hiwot.Ayaneh@yahoo.com
Rainbow Colours	Roses	Debra Zyeit	Tedessa Kelbessa	0911 389729	rainfarm@yahoo.com
Sher	Roses	Ziway	Ramesh Patil 0912 131940		
Braam Farm	Roses	Ziway	Ben Braam 0920 746270		
Sher Koka Farm	Roses	Ziway	Alemitu Biru 0912 097824		
Ziway Roses	Roses	Ziway	Ermiyas Solomon	0921 094373	ermiasziwayroses@yahoo.com
Herbug	Roses	Ziway	Hubb	hubb@herburgroses.nl	
Aq	Roses	Ziway	Wim	wimjr@aqroses.com	
Margin Par	Hypericum	Ziway	Hayo Hamster	251 911505845	marginpar@ethionet.et
Tal Flowers	Gypsophila	Ziway	Uri	uridago@walla.co.il	
Ewf Flowers	Hydragium	Ziway	Humphrey 0920 351931	production-manager@ewf-flowers.com	
Red Fox	Pelargoniums	Ziway	Michael Zevenbergen	0911 490023	m.zevenberge@ethiopia.redfox.de
Abssinia Flowers	Hypericum	Ziway	Sendafa	ggh_link@ethionet.et	
Ethiopia Cuttings	Geraniums	Koka	Scoff Morahan		scott.moharan@syngenta.com
Florensis Ethiopia	Buding Plants	Koka	Netsanet Tadasse		flrdnsis@ethionet.et
Maranque	Crysenthemums	Merjetu	Mark Drissen	(251) 221190750	md@maranqueplants.com
Freesia Ethiopia	Freesia And Statice	Sebata	Ronald Vijverberg	(251) 115156259	freesia@ethionet.et
Yelcona	Hypericum	Sebata	Andreas	0921 146930	Andreasndieolens@hotmail.com

Fruit, Herbs and vegetable Fruits In Kenya

COMPANY	LOCATION	PRODUCT	CONTACT PERSON	PHONE	EMAIL
AAA Growers	Nairobi	Horticulture	Mr.Neville Ratemo	020-4453970-4	admin@aaagrowers.co.ke
Belt Cargo Services Export Ltd	Nairobi	French Beans, Babycorn	Mr.J.Muigai	020-4448821	bcs@beltcargo.com
Best Grown Produce(K)Ltd			Mr.Paul Mugai	020-4448821	bestgproduce@yahoo.com
Chirag Kenya Ltd	Nairobi	Spces And Herbs	Sales Team	254-203573000	naturesown@swiftkenya.com
Canken International Ltd	Eldoret	Chillies And Fruits	Mr.Mohamed	020-222736367	canken@cankencargo.com
Darford's Enterprises Ltd	Nairobi	Vegetables	Mr.Abdul	254-206622857	abdulkarim@darfords.co.ke
Delmote Kenya Ltd	Thika	Fruits	Sales Manager	020-672141600	nanasi@freshdelmonte.com
Pj Dave Epz Ltd	Nairobi	Dried Herbs And Roses	Import And Export Manager		020-3542012 pjdavflowers@wananchi.com
Dominion Vegfruits Ltd	Nairobi	Fruits And Vegetables	Mr.John Mairura	020-823002	vegfruits@wananchi.com
East African Growers Ltd	Nairobi	Fruits And Vegetables	Mr.Peeush Mahajan	020-822034/25	peeush@eaga.co.ke, george@eaga.co.ke
Equitorial Nut Processors Ltd	Nairobi	Macadamia Nuts	Sales Managers	020-2030196	gatua@equatorialnut.co.ke
Everest Enterprises Ltd	Nairobi	Fruits And Vegetables	Mr.John Karuga F	020-3542009	smuhoho@everest.co.ke
Fian Green Kenya Ltd	Nairobi	Fruits And Vegetables	Mr.Francis Thuita	020-826157	info@fiangreens.co.ke
Fresh An Juici Ltd	Nairobi	Fresh And Vegetables	Ms.Maleka Akaberali	020-826090	maleka@freshanjuici.co.ke
Fresco Produce Ltd	Nairobi	Vegetables	Mr.Charles Mbugua	254-0722-764395	mbugua@freshproduce.co.ke
Frigoken Ltd	Nairobi	Fruits And Vegetables	Mr.D.Karim	020-2391717	frigoken@africaonline.co.ke
From Eden Ltd	Nairobi	Vegetables	Mr.Zulfikar Jessa	020-8562203	roy@from-eden.com, zul@tilleygroup.com
Global Fresh Ltd	Nairobi	Vegetables And Fruits	R.Chaudhry	020-82749/50	info@globalfresh.co.ke
Green Kenya Organization	Nairobi	Onions And Tomatoes	Charles Butiko	254-723119111	greenkenya28@gmail.com
Greenlands Agro Producers Ltd	Nairobi	Fruits And Vegetables	Mr.G.Murungi	020-827080/1/2	murungim@greenlands.co.ke
Highlands Cannerns Ltd	Nairobi	Fruits And Vegetables	Sales Manager	020-8564048	info@highlandcannerns.co.ke
Hillside Green Growers Ltd		Fruits And Vegetables	Ms.Eunice Mwongera	020-2397353	eunice@hillsidegreen.com
Homegrown Kenya Ltd	Nairobi	Flowers And Vegetables	Mr.Richard Fox	020-3873800	richard.fox@f-h.biz
Indu Farm Epz Ltd	Nairobi	Vegetables	General Manager	254-20-550215/6	info@indu-farm.com
Jakal Services Ltd	Mombasa	Fruits And Spices	Mr.Bandali	254-7412229435	jakal@ikenya.com
Jungle Macs EPZ Ltd	Thika	Fruits And Vegetables	Sales Manager	020-2451841	info@junglemacdamias.com
Jetlak Foods Ltd	Ruiru	Fruits And Vegetables		254-722754181	mail@jetlak.com
Indu Farm Epz Ltd	Nairobi	Fresh Fruit And Vegetables	Mr.Christian Bernard	020-550215/6/7	info@indu-farm.com
Kakuzi Ltd	Thika	Fruits, Nuts, Tea	Mr.Richard Collins	060-2033012	rcollins@kakuzi.co.ke
KHE (1977)Ltd	Nairobi	Fresh Fruit And Vegetables	Mr.Manu Dhanani	020-2517979	khe@khekenya.com
Kandia Fresh Produce Suppliers Ltd	Nairobi	Fruits And Vegetables	Ms.Lucy Mundia	020-3500866	kandia@swiftkenya.com
Kenya Orchards Ltd	Nairobi	Fruits And Vegetables	Sales Manager	254-2054161	
Keitt Exporters Ltd	Nairobi	Fresh Fruit And Vegetables	Asif Aman	020-822829	asif@keitt.co.ke
Mace Foods Ltd	Eldoret	Vegetables	Sales Manager	254-720391290	info@macefoods.com
Mugama Farmers	Murang'a	Vegetables	Sales Team	254-728-358211	mugamaunion@yahoo.co.uk
Makindu Growers And Packers Ltd	Nairobi	Passion Fruit	Mr.O.P.Bij Okra	020-822812/196	info@makindugrowers.co.ke
Meruherbs		Organic Producers	Marketing Manager	254-20-4442081	meruherbs@meruherbs.com
Muount Elgon Orchard Ltd	Kitale	Orchards	Bob Andersen	254-5431352	info@mtelgon.com
Mboga Tuu Ltd	Nairobi	Chillies And Vegetables	Mr.J.Kent	020-3877988	mtl@wananchi.com
Mixa Foods And Beverages	Kisumu	Fruits And Milk	Charles O.Odira	254-733-714584	info@mixafoods.co.ke
Mosi Ltd	Juja	Fruits	Rose Wahome	254-722204911	mwaiwahome@mosiflowers.com
Migotiyu Plantations Ltd	Nakuru	Herds And Seed Production	Mr. Rao	051-2214898	alphegaisal@wananchi.com
Namelok Exotic (K) Ltd			Mr. Sinkeet	0724-743258	info@namelokexotic.com
Njambiflora Ltd		Vegetables	Njambi	020-822506/7	njambiflora@yahoo.co.uk
Nicola Farms Ltd	Nanyuki	Fresh Fruit And Vegetables	Ms. Grace Wanjiku	020-2048874/76	marketing@nicola.co.ke
Olivado Kenya EPZ Ltd	Nairobi	Avocado	Nairobi General Managers	020-710-535303	gh@tanlay.com
Saw Africa EPZ Ltd	Thika		General Manager	254-722531106	wainana_patrick@yahoo.com
Sacco Fresh Ltd	Nairobi	French Beans	Mr.Muia	020-824687/8	info@sacco-fh.com
Shree Ganesh Ltd	Nairobi	Vegetables And Onions	Mr. Kanji Kalyan Patel	020-80243645	meleka@freshanjuici.co.ke
Sian Agiflora Kenya Limited	Nairobi	Calla Lillies	Ms. Angelina Mangat	020-822220	rano@sianexports.com
Syngenta EA Ltd	Nairobi	Seeds	Sales Manager	254-203222800	synjenta.east_africa@synjenta.com
Sunripe (1976) Ltd	Nairobi	Fresh Fruit And Vegetables	Mr. Hasit Shah	020-822518/822879	info@sunripe.co.ke
Value Pak Foods Ltd	Nairobi	Fruits And Vegetables	Mrs. Patel	020 2695633	valuepak@wananchi.com
Valentine Growers Co Ltd	Kiambu	Vegetables	Sales Team	254-720203765	info@valentine-flowers.com
Vegpro Kenya Ltd	Nairobi	French Beans	Mr. Bharat.Patel	020-822831-4	bharat@vegpro-group.com
Wamu Investments Ltd	Nairobi	Fresh Fruit And Vegetables	Mrs. Peris Muriuki	020-822441	peris@wamu-investments.com

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THE CHAIN OF TRUST IN FOOD PRODUCTION

- All products with the GGN label are certified in accordance with the rules of GLOBALG.A.P. Standards.
- GGN stands for a thirteen-figure identification number by which all certified participants in the production and supply chain can be recognised.
- A farmer with this number identifies himself as a participant in the independent certification procedure in accordance with the GLOBALG.A.P. Standard.
- Importers and exporters in the worldwide supply chain are checked to ensure that GLOBALG.A.P. certified goods are suitably distinguished from non-certified goods and that they are correctly marketed as such.
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