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Positioning Kenya's Floriculture in the Global Market



Richard Lesiyampe
P.S Agriculture



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The Leading Floriculture Magazine

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Editorial

Britain took part in a giant democratic exercise — perhaps the biggest in their history. Over 33 million people — from England, Scotland, Wales, Northern Ireland and Gibraltar — have all had their say. We should be proud of the fact that in these islands we trust the people with these big decisions.

The will of the British people is an instruction that must be delivered. It was not a decision that was taken lightly, not least because so many things were said by so many different organizations about the significance of this decision.

Kenya must now prepare for a negotiation with the Britain. This will need to involve the full engagement of the Ugandans, Tanzanians, Rwandese, Burundians and Southern Sudan governments to ensure that the interests of all parts of East Africa Community are protected and advanced.

But above all this will require strong, determined and committed leadership.

I believe great steps have made, with the European Union negotiations. More enthusiasm in the negotiation than ever before in our history, have been shown. In the last few months, the flower industry has enjoyed the temporary breathe. This has resulted to increasing people's life chances, building a bigger and stronger society, keeping our promises to the poorest on employment, government revenue, and ensuring that lovers across the other world have enjoyed their flowers. But above all restoring Kenya's economic strength and I am grateful those who made it happen.

But are we doing enough to convince our southern brothers that we are better off with EPA signed than the EBA they are clinging on due to their LDC status. Someone must do it now to ensure the lapse on 1st October does not throw us to a bottomless pit. I start by dedicating a single paragraph to them.

Dear Brothers

I now write about these negotiations in the only way I know how — which is to say directly and passionately what I think and feel — head, heart



and soul holding nothing back. I am absolutely clear that East Africa is stronger, safer and better off with EPA signed. I make it clear EPA is not about this and this alone — not the future of any single country, including Kenya.

You must do everything to steady this ship over the coming weeks, fate has made you the captain to steer this region to its next destination.

This is not a decision you should take lightly, for it will affect generations to come. I do believe it is in the regional interest not partisan interests or political difference interests.

I have also always believed that we have to confront big decisions — not duck them.

Masila Kanyingi



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- Always shake container before use.
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Flower Buyers Flock Nairobi To Source First Hand



Kenya's floriculture sub-sector is courting the United States, Chinese, Korean, Australian and Japanese markets as it seeks to expand from traditional European Union (EU) market.

Delegates of leading international buyers, wholesalers and retailers from almost a dozen countries outside the EU market attended the fifth edition of the International Flower Trade exhibition (IFTEX).

Middle East Market

The phenomenal growth of Black Tulip Group in flora trade is set to benefit Kenya more than any other country. Currently the group has boasts of Black Petals, Blue Sky ltd, Laurel Investments, Utee Estate, Golden Tulip farms Ltd and Tropiflora Ltd.

Speaking exclusively to *Floriculture Magazine*, Mr. Sunny Abraham, a director with the Sharjah based group said they were establishing more presence in the country. He added,

the company has acquired more farms in Kenya but this does not stop them from buying from growers. “Our market is large and cannot be sustained from our production. We are looking for more Kenyan growers to buy flowers from”. he said.

Agro-climatic conditions at Kenya are best suited for cultivating host of cut flowers for consistent and quality supplies. We recognized this potential and launched a Group company to basket an attractive product mix.

We began our operations under the banner of Garden Flora Exports Ltd in 2002 and since then, we have witnessed blossoming tie-up with over 24 local growers –“Producing Partners”, increasing interest from our clients- “Buying Partners” which further establishes our popularity as an ideal year round dependable business partner. Valuing relations has contributed enormously in giving us new direction in growth and expansion. We have succeeded in matching expectations and marching into the future with confidence as the world looks on.

Mr. Sunny said the group currently alliances with reputed & quality conscious “Producing Partners” well nurtured over these years and receive outstanding support on product update. The group has established a state-of-the-art ultra modern administration office in Nairobi and this immensely facilitates efficient shipping.

The group exports from Kenya to Australia, Indonesia, Philippines, India, UAE, Bahrain, South Africa, New Zealand, Kuwait, Lebanon, Cyprus, Greece in addition to the traditional EU market. Mr Sunny said that they are prepared for America .

The group’s sincere efforts on direct marketing and overwhelming production support from their ambitious marketing have seen them open more markets. “We are in Kenya sourcing for quality flowers, we strive towards wider spread of distribution network and even more promising growth,” he concluded.



American Market

Speaking exclusively to **Floriculture Magazine**, General Sales Manager Cargo Logistics Group Mr. Jose Zavala, said his company is interested in helping Kenyan growers with logistics to the US as well as developing growth programmes with local farmers.

Mr. Jose Zavala said Colombia is the biggest Kenyan competitor in the American market. However, he pointed out that he was ready to bridge the two countries. Adding, "Colombia's access to the American market is aided by the cultural ties.

In addition, Mr. Zavala pointed out that the Colombians were able to ship as little as one crate and consolidate on the American soil then supply to their customers. This is enabled through the Spanish connection and family companies who supply and collect the money. They also identify financially stable customers and ensure their growers are paid.

Mr. Zavala boasted, "this is exactly what I am to the Kenyan grower". Adding, "I am looking for potential growers with consistent head size and stem length". He called on Kenyan growers to take his advantage and improve their market share in America. "We still have shortage of flowers in America and Kenyan can easily tap the market", he said.

The American market will provide an opportunity, reliability, stable prices, fair competition and consistency to Kenyan growers. "We always have a shortage of flowers especially immediately after valentine and mother's day", he added

Cargo Logistics group is currently operating in America, Japan, Colombia and Russia among other destinations.

International Buyers

Other global players from Europe, Russia, Australia, Middle East, Far East, West Africa, South Africa and America were present.

Current Market Situation

Kenya currently, gets more than 35 per cent of all flower sales from the European Union. The main European Union markets for Kenyan flowers are Holland, United Kingdom, Germany, France, and Switzerland. According to the available statistics, out of the 65 per cent of flowers sold to Europe from Kenya, 40 per cent are sold through the Netherlands Auction, while 25 per cent is sold directly. United Kingdom as a single market, receives 25 per cent of Kenya's cut flowers while ten per cent is sold to other markets such as Japan, France, US, and Germany.

The shift from the EU has been aided by factors such as emergence of new flower

centres such as in Dubai, Tel Aviv, and Kuming in China opening new gateways to Asian producers.

Kenyan growers started in small scales, a few years ago, to export to the USA, Russia, Korea, Taiwan, New Zealand, Australia and Japan. Surprisingly, these markets have been growing steadily and hope buyers will increase orders in the near future.

Quality Assurance

On behalf of the government, Mr. Magara, the CEO of Horticultural Crops Directorate assured buyers that his institution will ensure growers will maintain quality with the view to ensuring they attract more buyers.

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IFTEX 2016: Deliver the Final Bouquet To the Customer's Vase



Popularly known as IFTEX, the show brings buyers from across the world to meet with growers who have staged a spectacular show of unarguably one of the best mixes of flowers the world can get, as well as the industry supply chain of products and services that together deliver the final bouquet to the customer's vase.

IFTEX 2016 was special as it marked the fifth year since the show was launched in 2011. In addition, several celebrations and important

meetings for flower industry stakeholders coincided with the fair, attesting to the growing importance of the event to the sector.

The Kenya Flower Council was celebrating its 20th anniversary and its global counterpart Union Fleurs (Union of International Flower Associations) held its Annual General Meeting during IFTEX week.

Due to the great interest of existing exhibitors to participate again, but also from many new companies and the invitation to flower growers from surrounding countries, IFTEX extended its exhibition space with another 2,000m² bringing the total exhibition area to 10,000m², attesting to its year on year growth.

IFTEX has stumped its authority as a leading flower trade show in the world. From the beginning, the event exhibited signs of setting a new record as the fastest growing flower show in the history of international flower trade fairs due to its attracting exhibitors and visitors from other continents and five years later, all indications are, the position still holds.

The exhibition reached the top of the the largest cut flower trade fairs in the world and has again rubberstamped this position by surpassing its own 2015 record affirming

its continued improvement since the inaugural show.

The growth of IFTEX mirrors the impressive floriculture industry that Kenya has built up in the past three decades; the reason why this trade fair has grown so fast to the size it has now.

Speaking during the opening ceremony, HPP President Mr. Dick van Raamsdonk said, "When I started a trade show in this beautiful country, I had no doubt in my mind it would grow into one of the leading cut trade flower fairs in the world and although I predicted it would take 3 to 5 years to get it to the top, it is still very impressive to see it happening. And the beauty of this all is the potential I see to bring it to the next level, which is making it the number one fair of its kind in the world".

This year we had 200 companies exhibiting, more than 3,500 national and international attendees, bringing the number of participating countries to more than 60. Exhibitors included growers & exporters,

brokers, breeders, propagators, suppliers and other flower industry related companies. Visitors included international flower buyers and flower growers. Both profiles are the prime targets of the event. The exhibition itself has grown another 10% in size, accommodating 15% more exhibitors and 10% more visitors, compared to last year.

Kenya is one of the few countries in the world where the floriculture industry is still growing. A strong, healthy, stable sector and, as a result, fully capable of supplying any flower buyer with any quantity, quality and variety, year round, giving the country a leading position in the international arena.

The special focus of exhibitors this year was on finding new customers in order to increase exports. Many first time buyers attending from the Far East, Middle East, South East Asia, Europe, but also Russia, China and the USA are getting on board, enormous buying power markets that are looking more and more for Kenyan grown flowers.

IFTEX KENYA Reaffirms Its Leading Position!



The fifth edition of IFTEX that was held in Nairobi Kenya, concluded as one of the best editions in its five years existence.

Exhibitors were more than satisfied with the results of their participation and some showed interest to secure their stand spaces for next year, some asking for better stand positions.

Several prizes were awarded to exhibiting companies for the Best Stand Decoration Competition. Bronze was awarded to the Kenyan grower Redlands, Silver was there for Black Tulip, Gold for Subati and Platinum for Omang, all-in the category Perishables. In the category Non Perishables, Bronze went to the Kenyan company Greenlife, Silver to the Dutch based company Broekhof, Gold was there for Amiran Kenya Ltd and Platinum for Agrichem Africa Ltd.

The 20th year anniversary of KFC (the Kenya Flower Council) was one of the highlights of this year's show, and during a great dinner party held on Tuesday evening just before the opening of the fair, KFC presented its new association logo. The official exhibition party, took place at Zen Garden on the second day of the fair, where participants had a wonderful evening in a beautiful garden setting with excellent food & drinks.

IFTEX 2017 dates are set for June 7-9, Oshwal Center, Westlands, Nairobi, Kenya.



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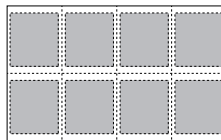
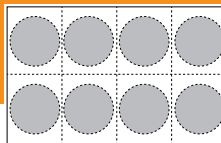
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Royal FloraHolland Awards for Timaflo and Kariki Farm



Awards to growers. The Achievement Award 2016, which was new this year, went to rose grower Timaflo. This special Award is based on commitment and reliability. Simon van der Burg of Timaflo has been a loyal member of Royal FloraHolland and a very good ambassador.

The Grower of the year Award 2015 went to Kariki Farm. This is based on their performance regarding Innovation. Kariki Farm adapted the Kaizen way of working in all their working processes which aligns with the Lean methodology within Royal FloraHolland.

Source: Royal FloraHolland

During the International Flower Trade Expo (IFTEx), held from June 8 to 10 in Nairobi, Kenya, two Royal FloraHolland Awards were awarded. They were handed out to the winners during the reception for customers, growers and relationships in the 'House of Opportunities'.

Together with the Dutch Embassy we hosted a cocktail reception and handed two

Tesco Sells off Garden Centre Chain Dobbies

Tesco has sold its garden centre chain Dobbies to a private investment group for £217m as part of a slimming down of the business to focus on its core assets. The buyers include Midlothian Capital Partners, a private investment group, and Hattington Capital, a London-based investor. It was thought financier Guy Hands would buy the business to merge Wyevale Garden Centres with Dobbies.

Dave Lewis, Tesco's chief executive, said: "We believe this agreement will give Dobbies a bright future, while allowing our UK retail business to focus on its core strengths." Tesco acquired the chain of garden centres in 2007 for £155m, when Sir Terry Leahy ran the business. It marked the retailer's first non-food acquisition.

The sale of the 35-strong nursery chain comes weeks after Tesco sold its Giraffe restaurant chain and Kipa, a Turkish retailer, as part of the group's efforts to streamline the business.

In April, Tesco sold an 8.6 per cent stake in its Asian ecommerce group Lazada to Alibaba, and last year it sold its South Korean business for £4bn. It has been speculated Tesco's chief executive is also considering a sale of its coffee shop chain Harris & Hoole, as well as its Euphorium bakery brand.

Delta and Air France-KLM Expand Cargo Routes

Delta Cargo and Air France KLM Cargo are further cementing their relationship within the North Atlantic Joint Venture (NAJV) by transitioning responsibility for sales and customer service in France and Germany to Air France-KLM.

Effective June 1, 2016, Air France-KLM Cargo became responsible for all sales activities, bookings and enquiries for Delta Cargo in France and Germany. The move follows the transition of Delta Cargo responsibilities to Air France-KLM Cargo in Belgium last month, under the

one roof strategy. The airlines' customers will benefit from easier single drop-off and collection points as well as an extensive route network.

"As we progress towards a fully-integrated AF/KL/DL sales force in Europe, we will provide our customers with a combined Transatlantic network covering all major cargo markets in the U.S. and Europe, greater peace of mind for re-protection across the entire JV network and more flexibility and convenience with a one-stop shop for all their cargo needs," said Kristin Colville, Managing Director – Delta Cargo

Revenue Management and Sales Development. "Working together is a formula for success, and we will continue introducing the one roof strategy across Europe."

Commenting on this expansion, Jean-Jacques Castillo, VP Area France, DOM-TOM and Africa for Air France-KLM Martinair Cargo said: "Air France, KLM, Alitalia and Delta Cargo are proud to permanently find new, innovative solutions for the benefit of their customers and to anticipate their expectations." "Having a fully integrated sales force and network will provide enhanced

flight options, flexibility and convenience when shipping goods to North America" added Gert Jan Roelands, VP Area Europe for AFKLM Cargo.

Delta Cargo and Air France Cargo began the one roof initiative at Paris-Charles de Gaulle in February 2015 to offer better value for customers and enhance the competitive position of the Delta/Air France-KLM and Alitalia partnership. It has also improved the transit times of goods moving between flights and trucks, allowing customers to drop off and recover shipments in the same location for all three airlines.



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Positioning Kenya's Floriculture in the Global Market.



This year's IFTEX trade fair theme was "Positioning Kenya's Floriculture in the global market." This theme was in line with The Kenya Vision 2030 development blue print which envisages the creation of a globally competitive and prosperous country with a high quality of life for all citizens by the year 2030. The Agriculture sector efforts are therefore anchored on increasing productivity, commercialization and competitiveness of agricultural commodities and enterprises. The floriculture industry is a good example of how this strategy is taking shape.

Speaking during the opening ceremony of IFTEX 2016, Dr. Richard Lesiyambe, Principal Secretary, State Department of Agriculture said, "I am happy to note IFTEX creates a platform and a conducive environment for over 200 exhibitors who

include breeders, propagators, growers, exporters, suppliers and other flower industry related players and stakeholders both from Kenya and all over the world, who take time to discuss the development of trade in this important industry. Over 5,000 visitors visited the stands this year. These visitors came from the EU, Russia, USA, Middle and Far East and China, in addition to others from Rwanda, Ethiopia, Zambia, Zimbabwe, Uganda, South Africa and Tanzania. This forum is therefore an opportunity for the Kenyan floriculture sub sector players to contract business transactions, exchange information and share experiences that are beneficial to their businesses".

The floriculture sub sector in Kenya is a major foreign exchange earner and employs over 500,000 people directly and more than 6 million people indirectly. The sub sector

has also recorded the highest growth rate of between 10% and 20% annually over the last 15 years. In Africa, Kenya is the leading flower growers and exporters.

Indeed, in the year 2015, Kenya exported flowers worth 630 million USD as compared to 550 USD Million in the year 2014 which is about 69% of the total horticulture export earnings of over 910 Million USD in the same year. Statistics show that Kenya contributes to over 35 % of the world flower trade and competes with countries such as Ecuador, Colombia, and Ethiopia in the world flower business. The rose flower is the top Kenyan variety, leading in exports, followed by carnations, static, alstroemeria, eryngiums, arabicums, cut foliage, chrysanthemums, solidago, and a range of summer flowers among others and the main export destination is the EU with a 36% market share of imports.

The major market for Kenyan flowers is Europe with new emerging markets in Japan, Middle East and Russia. It is gratifying that this sub sector is fully capable of supplying any flower buyer with quantity, quality and variety of flowers all

year round. Stakeholders should continue putting more effort towards a sustained growth of the industry and continue engaging the Government in efforts to make flowers more competitive in the international market.

In recognition to the role played by this sub sector in the Kenyan economy, the government is undertaking a number of initiatives to develop the industry.

The government has established an Agriculture Development Fund that is envisaged to support the development of agriculture crops in general and horticulture crops in particular.

The government is continuously reviewing policies and regulatory framework to ensure a conducive environment for investors and facilitate further growth of the sub-sector and the flower industry in particular.

In recognition to the role played by institutions, the government will continue to facilitate the competitiveness of Kenya's horticultural sector, and promote international, regional and local trade by continuing to strengthen the Horticultural Crops Directorate which is pivotal in International Market promotional activities, the Kenya Plant Health Inspectorate Service, whose services have been upgraded to ensure electronic licensing and improved laboratory facilities and services, the Pest Control Products Board, the Kenya Agricultural and Livestock Research Organisation and other relevant institutions to enable them play a greater role in improving standards and service provision in the subsector.

To ensure that Horticulture subsector has a coordinated

approach to issues affecting horticulture, especially with regard to market requirements and compliance, the Government has established the Horticulture Competent Authority Structure and National Traceability System in which the private sector institutions such as the Kenya Flower Council (KFC) and the Fresh Produce Exporters Association (FPEAK) are members.

The Government has continued to Zero rate VAT and give Duty exemptions for:

irrigation, fertigation and water application related equipment, horticulture machinery for soil preparation, fertilizers, greenhouse materials, and equipment.

To reciprocate the initiatives being undertaken by Government, the private sector should engage more with both the National and County Governments under the public private partnerships (PPPs) initiative in creating innovative solutions that will go a long way in addressing challenges facing the subsector.



Kenya May Lose Sh4b Monthly if EU Trade Deal is not Signed

The horticulture sector stands to lose about Sh4 billion monthly if a key trade deal with the European Union is not signed by October 1. Regional countries that make up the East African Community (EAC) are supposed to sign the Economic Partnership Agreement (EPA) jointly. The agreement gives the region's products duty-free export access to European markets. For the EPAs to be valid, the entire region needed to agree to them, but special concessions would remain in place for least developing countries.

Kenya, therefore, stands to lose the most if export subsidies are withdrawn. However, Tanzania and Uganda have been dragging their feet in reaching the deal.

Kenya Flower Council (KFC) Chairman Richard Fox said failure by Kenya to sign the EPA will subject it to export duty of between 8 per cent and 12 per cent, which will amount to 3 million pounds per month (Sh4 billion).

Kenya is the only country in the EAC considered a developing country, while its neighbours are still ranked as least developed countries (LDC), thus allowing them duty free market access. The LDC countries are not required to sign EPAs since their preferences will continue under the Everything But Arms (EBA) scheme.

Under EBA, poor nations are granted duty free access to the EU for all products, except arms and ammunition and 41 tariff lines concerning rice and sugar, on which duty free quotas are established until full



“Failure to pass the deal would mean exports into Europe would be taxed to access the lucrative 28-member-State union,”

liberalisation.

KFC Chief Executive Officer Jane Ngige said failure to sign the pact will put Kenya in an awkward position as the country needs to continue accessing the European market. “Failure to pass the deal would mean exports into Europe would be taxed to access the lucrative 28-member-State union,” said Mrs Ngige. “Should Kenya miss out on signing the EPAs, trade between it and Europe would be reverted to the less generous market access terms under the General System of Preference (GSP).”

However, the Government has assured that the country will sign EAC-EU Economic Partnership Agreement deal by August 1. Principal Secretary State Department

of Trade at the Ministry of Industry, Trade and Cooperatives Dr Chris Kiptoo said negotiations are ongoing to ensure the pact is signed before the deadline.

“We want to assure you that we are working day and night to ensure that we sign the EPA by August 1, 2016 then implement it so that we meet the official deadline of September 30 and enjoy the benefits that comes with it,” said Dr Kiptoo. The signing of the EPA pact would play significantly in enabling Kenya

compete more ably with her regional peers.

The talks have been going on for more than a decade, and if they continue to drag on, the county's flower industry could begin to suffer even more losses. The floriculture sub sector in Kenya is a major foreign exchange earner and employs over 500,000 people directly and more than 6 million people indirectly.

“The sub sector has also recorded the highest growth rate of between 10 per cent and 20 per cent annually over the last 15 years. In Africa, Kenya is among the leading flower growers and exporters,” said Dr Richard Lesiyambe, Principal Secretary, State Department of Agriculture during the official opening of the International Flower Trade Expo (IFTEX) 2016, that was held from Wednesday June 8 to 10, 2016 at the Visa Oshwal Centre, Nairobi.

He added: “Indeed, in the year 2015, Kenya exported flowers worth \$630 million (Sh63.66 billion) as compared to \$550 million (Sh55.58 billion) in 2014 which is about 69 per cent of the total horticulture export earnings of over \$910 million (Sh91.96 billion) in the same year.”



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Flower Growers Absorbing High Costs of Production



Kenya Flower Council (KFC)
Chairman Richard Fox

“
We request the government to fully support this initiative to make compliance mandatory and thereby protect our industry from a small percentage of growers who tarnish the enviable reputation of Kenya’s flower industry
”

Flower prices over the last six years have grown at only 7 percent whereas costs of production in Kenya have risen by more than 50 percent. This has impacted on the profits and ability to reinvest and expand. Principal amongst these cost increases are power and labour. In addition, the industry has also sought to absorb cost increases through improved efficiencies. This was said by Mr. Richard Fox, Kenya Flower Council Chairman.

Growth

Admirably, the industry has been growing from 1995 when flower exports amounted to 25,000 tonnes.

Mr. Fox added that the industry grew annually at a remarkable 10 percent up to 2008 when it reached 120,000 tonnes and became one of the top forex earners for the economy, contributing 3 percent to GDP and 9 percent of Kenya’s exports. Equally importantly the industry has created more

than 50,000 jobs in direct employment and many more in support industries and services.

This remarkable achievement has been achieved through the benefits of our all round climate, the hard work and skill of our employees, and an enabling and favourable business environment pursued by Government that allowed the private sector to do what it does best.

From 2008 to date, growth has continued but at a more modest 2 percent and for 2015.

Why has this occurred?

There are a number of key reasons. 2008 coincided with the beginning of the downturn in the European economies, the main market, and it is only now that there is optimism that this market is emerging from recession. Despite this, the demand for flowers has not reduced and there has been some growth.

However, growers have been active in looking to sell in other markets. Russia and the US are increasingly important markets and the Far East and most recently China and Australia are opportunities for Kenya’s flower industry to contribute to trade imbalances with these regions. With these initiatives growers have been able to grow their markets in difficult economic circumstances and retain Kenya’s reputation as the leading supplier of quality cut flowers to worldwide markets.

Our main market is the EU where 35 percent of cut flower sales are exported from Kenya. The trade with the EU has been quota and duty free under a temporary agreement but now subject to a deadline to enter a EPA between EAC and EU. It is still a subject to much discussion and the Government is working hard to conclude the negotiations expeditiously. Nonetheless it is crucial to have the EPA for the industry to remain competitive with other producing countries, not least

Ethiopia and Columbia who already have assured duty and quota free access. Whilst the deadline imposed is near, it is imperative that the agreement is signed well before then so that some form of interim ratification can be in place to avoid the imposition of duties albeit as a temporary measure.

Industry Regulations

In the last five years, as the industry has sought to absorb cost increases through improved efficiencies and seeking of more lucrative markets for its products. This has witnessed a growing concern from customers relating to the social and environmental sustainability of flowers they buy. The Kenya Flower Council has promoted a high degree of compliance in meeting these concerns through its Silver Standard. It is currently leading a national initiative to introduce a mechanism to ensure compliance to a level that will satisfy these concerns. "We request the government to fully support this initiative to make compliance mandatory and thereby protect our industry from a small



percentage of growers who tarnish the enviable reputation of Kenya's flower industry" said Mr. Fox.

KFC is playing a leading role in an international programme, called the Floricultural Sustainability Initiative aimed at benchmarking the plethora of standards worldwide that regulate the industry against a level that reflects good sustainable practice. The early signs are that the KFC standard measures up to and will exceed the FSI benchmark. This will place the KFC Silver standard shoulder to shoulder with other international standards.

Public sector- private sector participation

Equally, KFC growers in Naivasha have embraced the Government's policy to encourage public sector- private sector participation in the development agenda by supporting the Imarisha project started in 2011 and already seeing a coordinated approach to the development and management of natural resources for the benefit of all stakeholders in the Naivasha basin. So whilst customers want to

see their products sustainably, we in Kenya must also plan and invest in the long term sustainable use of our resources for the benefit of future generations.

In 2013 his Excellency the President presided over a major change in how the Country is governed. KFC members have embraced the transition to the County structure and have already engaged with the Counties where they are active and have had very fruitful discussions. There are challenges but hope to be able to jointly dismantle the numerous taxes and levies to which they are subjected, 47 at the last count, to make business simpler and more efficient.

Equally in the spirit of a public sector-private sector relationship growers are confident that their respective goals will result in mutually agreeable arrangements.

His Excellency the President has made it clear from the start that the Government wants to do all it can to encourage industry and create employment. Kenya is open for business. Some remarkable improvements in the development of infrastructure particularly power, road and soon to be rail links have been seen. The expansion of JKI Airport is crucially important to the industry.



Innovative Solutions Send Supply-Chain Problems Packing

Packaging might not be the sexiest part of the supply chain, but without adequate solutions that work up and down the chain produce will never arrive for presentation at stores. A multitude of companies are exploring innovative methods to boost sustainability, reduce costs and improve packaging as a marketing medium. Floriculture Magazine speaks to a few of the sector's key figures

Packaging is the unsung hero of the fresh produce industry. And for a sector that might be perceived – wrongly – as a less than glamorous component of the supply chain there exists a wealth of innovation and dynamism within fresh-produce packaging.

At a time when issues such as sustainability figure high on consumers', and thus retailers', minds, this is being mirrored in companies' R&D departments. Concepts such as efficiency and sustainability are at the forefront of the industry.

"It's certainly one of the major things we're focusing on right now," says Parit Shah of Silpack Industries Ltd. "Whereas three years ago most people were thinking about the bottom line, retailers are now much more interested in sustainability and thinking about the environment."

Nick Barnes, Managing Director of East African Packaging Industries, is in full agreement. "Sustainability is a key driver," he states, "and we are very proud of our environmental credentials. We have widespread and extensive use (an average of 75%) of environmentally friendly raw materials."

"We bring significant environmental benefits throughout the supply chain during use," Mr Bhalla of All Pack Industries Ltd says. "The versatility in size and shape means unlimited design opportunities, which can increase productivity on packing lines and provides space efficiency in Cold house and in transport."

As an industry, therefore, packaging companies have to be conscious of emerging market, technical and social changes. Their customers want a continuous drive for increased efficiency and commercial advantage in their facilities and through the supply chain; they are seeking clear ethical and environmental credentials.

And as Barnes points out, society is moving towards a "circular economy", reducing our carbon footprint and seeking to minimise use of resources. Consumer opinions too are changing with the recognition of the importance of food waste.

Supply chain solutions

As a pivotal part of the supply chain, packaging companies have to



be mindful of solutions all the way down the chain. This is most of the companies have a dedicated produce team. Mr. Bhalla, says they live, breathe and drink produce, prepared produce and horticulture and that includes retail, food service, catering and export.

"You're talking about solutions all the way along the supply chain," he says. "You're talking about a solution for the grower, the packer, for the retailer, for the logistics... right the way through the supply chain you have to think about solutions and responsibly trying to take costs out. It's not just about the packer and it's not just about the retailer, it's about the whole supply chain."

And in agreement with the rest, he too recognizes that the industry is changing rapidly.

"The customer is becoming more aware of the variety and the availability of produce on offer all year round. They therefore want the choice of product/variety but the retailers only have so much competing space on the shelves. That's where packaging is increasingly playing a key role moving forwards."

This is where quality packaging comes in, Mr. Jay Shah of carton Manufacturers says. In his estimation the drive to corrugated packaging has far more flexibility to improve the range and variety of the produce

offer in store. Another benefit of corrugated packaging is the perception in the minds of the shopper that the product housed in the packaging is fresher.

Mr Parit is another to extol the virtues of corrugated packaging. Moves within corrugated have driven the environmental debate with the light-weighting of papers. He enthuses: "A constant process has seen a 7% reduction in weight (2006–2013) with no loss of strength. This, and reductions in energy use, have contributed to a 16% reduction in carbon footprint (2005-2014)."

At the London Produce Show and Conference on June 9 Mr. Barnetson from the US presented the results of new research from a leading international university demonstrating that corrugated packaging is naturally hygienic, leading to a greater shelf life for fresh produce in paper packaging compared to other materials. "More than 80% of UK corrugated is already being recycled," Barnetson notes. "This is equivalent to an area of board the size of Greater London avoiding landfill every four months." Another boon for the environmental argument.

Differentiation is also key within packaging. Panalpina Airflo acknowledges that as fresh produce continues to rise in importance as a destination category within retail having an aesthetic point of difference becomes important. He says Panalpina put a lot of resource into looking at how it can help drive sales; differentiate the offer and improve merchandising, presentation, logistics and cost.

"We're actively doing that," he explains. "The two markets that are most innovative in that respect are the UK and Holland. We work very closely with our European airlines, logistic companies and retailers in developing solutions to retailers."

Because of the flexibility, difference can be explored fully. He explains how DFG has been working closely with a number of retailers when it comes to different tiers of the market.

"On the premium ranges we're helping both retailers and discounters drive sales. The term premiumisation, as it is now referred to, is becoming a key added-value battleground for the produce market." After introducing light boxes into the market with a stated aim of shaking things up, Silpack now wants to utilise its expertise in pre-print in transforming boxes from simple receptacles of produce to mediums of communication.

"They really work," Mr. Barnes says. "They can help get rid of unnecessary waste in stores, it reduces cost and makes the boxes and packaging as attractive as possible. So to some extent they act as a point-of-sale instrument. That's what we really push forward – we really want to grow the market in pre-printed liners. So much packaging is plain and doesn't communicate anything... supermarkets are missing an opportunity, because if they could actually use the packaging with prices or discounts or anything printed on it then the packaging would no longer be just about logistics and transport but it would also be a marketing tool."

Lower shipping costs with clever packaging concept

Crushed cartons at the bottom of regular air pallets. It damages the flowers and results in consequent revenue loss. Now, Cargolite has developed a new concept in flower packaging that prevents the boxes from crushing and saves up to 50 percent in shipping costs. This new concept is called, the Cargolite.

The concept

When designing the Cargolite, John Kowarsky, CEO of the company, wanted to meet four principles; removing the load from the carton walls, reduce the carton weight, increase the pack rate and improve the stackability. "In order to remove the load from the carton wall, each Cargolite carton is equipped with two polypropylene frames and each frame consists of two vertical columns that are connected to each other with upper and lower laterals. These frames, which are also used to hold the cartons ergonomically in a horizontal position, divert the weight of the flowers away from the carton's walls and support each carton separately", says Kowarsky.

In the picture, two air pallets, one with Cargolite and the second with regular cartons, are seen together upon their arrival to Europe.

"And with the weight diverted away from the carton's walls, it is no longer necessary to use heavy five ply boards, a much lighter, 3 ply board, is enough. With the frames holding the cartons from collapsing, less packaging materials are required to protect the flowers" As a result, more stems can be packed and the weight of the carton is considerably reduced, which meets the second and third principle.

Finally, Kowarsky was also able to meet his fourth principle, stackability, as the projections of one frame fit into the cavities of the frame above it. "This makes the boxes on the airpallet very stable and enables the flowers to arrive at their destination without any damage", he says.

Cooling

"Usually, regular boxes are stacked on the air pallet very densely. As a result, it is quite hard to cool down the boxes in the heart of the pallet", says Kowarsky. "The Cargolite frames create a space between the cartons which make it ideal for the cold air to flow between the boxes. And in addition, Cargolite is optimized for skids. Therefore, both features make Cargolite an interesting choice for shipping flowers by sea freight. "Furthermore the offloading of the cartons with the use of a fork lift, will save labour and minimize damage caused by man-handling the cartons too many times", he adds.

Carbon Footprint

According to Kowarsky and his colleague, Amnon Zamir, Cargolite also seems to have a lower carbon footprint than the regular existing boxes. "It is made from recycled polypropylene and recycled paper, the cartons are lighter and require much less paper than existing boxes. In addition, the Cargolite cartons contain more flowers and therefore reduces the number of cartons required and reduces even further the paper consumption. And less cartons also mean less trucks, less planes, less emissions and so on. So all in all, a improved carbon footprint", concludes Kowarsky.

Balanced Mineral Nutrition Prevent Disease Infestation for Rose Plants

Flower production costs in Kenya have increased significantly due to outbreak of disease like downy mildew, powdery mildew and botrytis and since this has become a limiting factor for production, it has become a concern for the investor.

Most growers use high amount of chemicals to control the disease, unaware of the fact that a timely and balanced mineral nutrition can prevent the disease as this enables the plants to develop the resistance against the disease, but in reality most growers resort to use of high level of chemicals which not only raises concern on environment and safety but also leaves economical consequences as well.

Essential plant nutrients in proper combination, concentration and ratio depending on the media type and climatic condition make the plants healthy and tolerant or resistant to disease where as the deficiency of them make the plants susceptible to diseases.

As soil pH, soil type, ionic forms of nutrients and their availability contributes the utilization and uptake of nutrients, a proper and balanced fertigation program can help the growers to achieve adequate disease control to a great extent.

This balanced fertigation program involves the composition of fertilizer stock solution in respect to all essential elements and their optimum level for physiological activities of the plant and also importance to be given for proper media management as media influence the nutrients availability to the plant for their utilization

and uptake.

As it is known also that nutrient uptake greatly influenced by the prevailing weather condition, media pH, soil type (this determines the interval between irrigations), crop stage and variety, it is important to note that these factors to be kept in mind while composing stock solution and its discharge per certain volume of water.

As it is well known that a balanced nutritional feeding makes the plants develop resistance by strengthening the cell wall forming mechanical barrier which makes the fungus difficult to penetrate the plant body, in addition to that, this also enables plant to produce defense or anti- fungal compounds.

There are many nutrients like Calcium and other elements when utilized in optimum level and in proper ratio the plant cell becomes stronger which makes the fungus difficult to penetrate plant body and there are other nutrients like Manganese, Copper

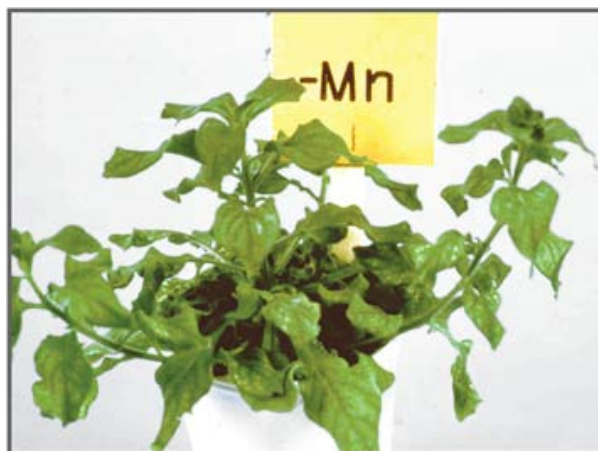


Iron-manganese toxicity in geranium.

and others which activate the enzymic activity to produce antifungal compounds. Potash plays an important role in metabolic activity of the plant as well in reducing the sensitivity of the disease. Sulphur as nutrient play a great role in reducing and inhibiting the disease directly or indirectly both in media and foliar disease as well.

An authentic and genuine water and media analysis should be done and studied thoroughly in terms of chemical composition and other aspects in order to decide on the amendment to be applied to make them suitable for plant growth and development and this in turn enables the plant to utilize the nutrients by increasing their availability if plants are receiving balanced fertigation program.

Therefore, a proper combination of fertigation program, cultural practices and cautious use of chemicals should be an essential approach for the grower to control diseases and successfully induce systemic acquired resistance to the plant against the disease and increase the productivity of the crop.



Manganese deficiency in petunia.

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How to Test Growing Media

By Lance Lawson

It is necessary to periodically check the pH, electrical conductivity and individual nutrients in a growing medium to monitor crop status.

To do so, collect a two-cup sample of growing medium taken from several plants of the same cultivar and age and send it to a horticulture testing laboratory. Most labs require 2-3 business days to process the samples. However, some will offer the option of expediting sample analysis in one day for an extra charge. Remember the time it takes to mail the samples to the lab must be added to the processing time to know when the results will be available.

Many growers want to know this information as soon as possible in order to make critical decisions about fertilizer application, leaching or finding corrective measures if the pH is out of desirable range. If you have access to pH and E.C. meters, then these parameters can be tested in-house, at your location. There are a few meters that do test for an individual nutrient, but collectively they can be expensive. Often,

in-house testing is generally for testing pH and E.C., which will catch most of the common fertility problems (pH too high or too low, fertility rates too high or too low).

To prepare a growing medium sample for in-house testing for pH and E.C., the growing medium sample must be mixed with a specific volume of deionized water and allowed to sit for at least a half hour to a full hour. From this sample, the pH and E.C. can be measured. There are several different methods used to prepare growing medium samples for testing. Keep in mind that the results from one test method, such as E.C., cannot be interpreted using normal ranges from another test method. So whatever the sampling procedure, it is important to use the normal ranges from that test method and not from another.

The test methods, how to prepare the samples and the pros and cons of each are discussed below. Keep in mind that these procedures work for both unused growing medium and in-use growing medium from a crop.

Saturated Media Extract (S.M.E.)

The saturated media extract involves taking growing medium, placing it inside a cup and then adding enough deionized water to saturate the sample. Samples must be taken from the lower portion of plant root balls and any control release fertilizer prills must be removed from each sample. Deionized water should be mixed into the growing medium until the growing medium's surface glistens or looks shiny. There should be no water puddled on the surface of the growing medium sample, nor should the growing medium be "floating" in water.

An advantage of the S.M.E is that you do not need to consider the starting moisture content of the growing medium as with the other procedures. For example, if the sample is wet due to a recent irrigation, then less deionized water is required to saturate the growing medium sample compared to a dry sample. Another advantage is that most horticulture laboratories use this same procedure, so your results can be directly compared with laboratory results.

The disadvantage to this procedure is that it is slightly destructive, meaning growing medium must be taken from several plants. This can take some time, especially when blending the sample together to make it uniform. If controlled-release fertilizer prills are present in the growing medium, they should be first removed so they are not damaged when preparing the sample.

2:1, 5:1 (ratio of water: growing media) methods

Like the S.M.E. analysis, the growing medium is placed in a cup and deionized water is added. In this case, either two parts deionized water is added to one part growing medium (2:1 method) or five parts deionized water is added to one part growing medium (5:1 method). Ideally, the growing medium should start with moderate moisture content and not be saturated or dry. It is best to sample plants at the same time relative to an irrigation event to reduce variability in moisture content of the starting sample.

The advantages of this method is that everything is prepared as simple volume measurements, there is no guessing as to what glistening is and you do not have to worry about adding too much water, which could happen with S.M.E. There may be a few horticultural testing laboratories that use the 2:1 method, so it is easier for comparison, but most use S.M.E.

The disadvantages are the same as S.M.E., in that it requires the growing medium to be taken from several containers. Although knowing how much water to add is easy, the initial moisture content of the sample has some influence on the E.C. results.

Pour-through and squeeze methods

These methods are non-destructive, meaning no growing medium is removed from containers, and involve extracting water from the growing medium within a container or cell. The pour-through method is used for cell packs and larger pots while the squeeze method is for plugs or liners smaller than a 50-cell plug tray. Both methods require saturating the growing medium one hour before testing. If you constant feed, use the fertilizer solution to thoroughly water the plants, and if you pulse feed (periodic feeding), use clear water.

For the pour-through method, pour deionized water over the growing medium's surface, and collect the leachate that flows out of the bottom of the container. The goal is to obtain 50 ml (2.5 ounces) of solution per sample. Do not exceed 60 ml (3.0 ounces) as the sample will be too diluted, resulting in lower E.C. values.

For the squeeze method, collect the solution from the plug by either pressing down on the growing medium's surface or removing the plug and squeezing the solution out of the growing medium. The volume of solution needed depends on how much is required to operate the pH and E.C. meters.

The advantage of these methods is that they are non-destructive and involve extracting water from a container or cell. They are quick and easy. The pour-through method is preferred if controlled-release fertilizer has been incorporated into the growing medium, since it does not break the prills, which can happen with the above procedures.

Standards for both methods are not as well-established. Care must be used to collect the correct amount of leachate as too much will dilute the salts, reducing E.C., and collecting too little leachate will elevate the E.C. Do not use these methods for subirrigated crops as excessive surface salts will be leached down through the growing medium profile into the collected solution and affect E.C. and pH results.

Source: Premier Tech Horticulture.

Russian Flower Market Development Prospects



Russia with its vast territories and different weather conditions of many regions where the production of their own flowers and ornamental plants is unprofitable is still the largest consumer and importer of flowers.

The experts include it in the top six leading countries in consumption and import of all kinds of cut flowers after the USA, Germany, the Netherlands, Great Britain and France.

Growth in sales of cut flowers in Russia has been constantly increasing in recent years and has grown from 938 million pcs. in 2005 to 1.75 billion pcs. in 2014. The amount of flower sales according to different analysts accounted for over 4 billion USD where 90% is import.

The main suppliers of flowers are the Netherlands (44% of the market) and South American countries. Colombia and Ecuador supply almost half of all cut flower (Ecuador: 36%, Colombia: 13%).

The largest share of imported flowers is sold in Moscow. According to experts the sales market here accounts for 17.5 to 23% of the total sales in Russia. Moscow is followed by Moscow region and St. Petersburg,

18% and 13% respectively. As to the structure of cut flower import, rose ranks first – 43%. It is followed by chrysanthemums and carnation, 22 and 16% respectively. Over 60% of rose import both in kind and in value terms is supplied from Ecuador. The second place among rose supplying countries is occupied by Colombia.

According to marketing research of the world and Russian cut flower markets the growth of rose import to Russia is noted from all main supplying countries. However, the highest growth rate is observed in Kenya. Import from



this country increased over the past few years by more than 50% in quantity and value terms. New countries India and Vietnam are now entering the Russian market. Japan also shows interest in the Russian market. The major constraint here is logistics.

2015 Crisis

What are the changes the crisis of 2015 brought to the successfully developing Russian flower market? According to experts the decline in sales in real terms in 2015 occurred within 12-15%. At the same time due to devaluation of the ruble the figures in monetary terms have not changed much. It should be borne in mind that the needs of the Russian flower market are satisfied not only by imports but also through domestic production.

Domestic production of cut flowers and marketing of nursery floral and ornamental products in Russia have been growing rapidly. This growth was achieved due to introduction of new greenhouse complexes and due to the recently built facilities that achieved their full capacity.

By 2015 the area of modern flower producing greenhouses reached 168 ha. They are furnished with state-of-the-art equipment, use the latest technologies and have competent specialists. Their weak link is planting stock

which is mainly supplied from European countries (mainly from Holland). No single company in Russia is engaged in production of certified planting stock.

Over the last 4 years domestic production of cut flowers have increased 2.5 times and reached 15% of the total sales.

The Central Federal District accounts for the largest volume of cut flowers production in real terms. It is due to an increase of investments and building of new greenhouses there. In the nearest future new flower greenhouses will be commissioned in Kursk, and greenhouse production areas in Belgorod will be enlarged. The production is drawn towards southern

territories.

According to medium-term forecasts the growth of cut flowers production in Russia will considerably outpace the growth of import.

Speaking about flower import without which it is impossible to meet the demand of the Russians for flowers, like in any import-dependent segment, the Russian flower market responded to soared currency rate by increasing the final flower cost and reducing volumes.

According to experts in 2015 the reduction of volumes in the Russian flower market was within 12-15%. At the same time due to the ruble devaluation, monetary indicators remained practically unchanged.

According to “Royal FloraHolland”, which in spring sales of 2016 paid special attention to the Russian market, due to the latest events flower sales in Russia for 8 March was under considerable pressure (the turnover fell by 8%).

However, the market has its chance. Specifics of the Russian flower market is that flowers to the Russians are still a very important and essential attributes of holidays, family events and public celebrations. And despite the crisis the demand for flowers is still at a sufficiently high level.

Therefore experts say that despite serious decline in consumer interest and a number of technological difficulties, the Russian market still remains interesting for investors.

In 2016 further decline is not expected. Moreover according to the market participants in the current year the market will not only maintain its positions but will go up and the growth rates will be increasing as the crisis in the

country's economy is overcome.

Analysts from consulting companies predict positive growth of the Russian flower market in the next five years. By GLOBAL REACH CONSULTING (GRC) estimate, the volume of the Russian cut flower market will make up over 2 billion pcs in real terms.

According to forecasts of analysts from BusinessStat the sales will reach 2.16 billion pcs in 2019 exceeding the level of 2014 by 23%. The main growth drivers are floristic services and sales growth thanks to increase

in the average purchase frequency. Gradually flowers will not be looked upon only as a holiday attribute.

Following the global trend the Russians will start to consider flowers as a daily attribute of home décor elements. It is forecasted that, having overcome the crisis in the next 10 years Russia will take the second place in Europe after Germany in the volume of flowers imports. The actual capacity of the Russian flower market is still estimated by experts at \$ 40 billion.



Bayer East Africa Holds Country Wide Seminar for Growers



If you ask Bayer East Africa management what is the main difference between their company's business model and that of most other players in the market for Agrochemicals, they will answer "While the traditional business model in this market is product driven and supply-pushed, ours is the exact opposite: Customer-driven, demand-pulled". While Bayer East Africa is certainly not the only company to have such business model, it is true that this is their business model, reflected

in their strategy and moves in the market. With a focus on emerging countries and niche markets, Bayer East Africa manages a portfolio of many active ingredients.

In well attended seminars on their products, this was well seen. Speaking to the growers, Mr. Leonard Kipchumba, said, "Bayer East Africa is focused on helping its customers cultivate business growth through the development, marketing and distribution of innovative, high quality chemical and non-chemical solutions for today's dynamic agro science marketplace".

The start of the seminar focused on two trusted fungal control products that have been in the Kenyan ornamental market for some time. Mr. Kipchumba highlighted that Luna Traguility, whose unparalleled efficacy on the most problematic diseases goes beyond the achievements of today's fungicide with improved quality, longer vase life, less waste and increased marketability. "Luna likes to work on a broad spectrum of foliar diseases giving excellent control of the powdery mildew species and botrytis, he added.

In addition to this trusted fungicide, Mr. Kipchumba said, the company has the best Downy Mildew program. Mr. Kipchumba spoke of the trusted well known and now even better Previcur energy. He said the product has a combined and enhanced efficacy, a perfect tool for resistance management with root and growth stimulant effect. It is an induction of systemic induced resistance and elimination of stem and overwintering downy mildew.

After the start off, he requested growers to follow up with the new standard for downy mildew control, Infinito. He said the product has a powerful protection, it is convenient to use and gives a healthy produce. It has an early curative against spore germination sporangia elongation and germ tube penetration. This makes it the perfect protection for your flowers.



large quantities of higher quality flowers and meet the demands of the market. But we at Bayer East Africa go an extra mile to understand the consumer who expects top quality produce all year round and sustainability.” Therefore some products like Luna contribute to reducing ecological foot print to ensure healthy, happy flowers that have benefited from the outstanding efficacy of the products.

Old is gold as it was proved by Mr. Kipchumba. Speaking of the perfect fit for botrytis control, Mr Kipchumba to enjoy the uniqueness of Teldor WG 50. Teldor is in a unique chemical class and mode of action making it a perfect tool for resistance management, he said. Adding, “It has strong preventive activity and works optimally in a wide range

Bayer East Africa has two late curative products for downy that deal with intra-cellular infection level when symptoms are visible to the eye. Melody Duo, a long lasting activity that offer growers more harmony and control, a curative and protective activity in addition to resistance management. Lastly, Verita will offer growers more nights of good sleep included. This is due to its two active ingredients which join together to offer outstanding curative and systemic acquired resistance against downy mildew.

Mr. Kipchumba assured growers of products that better reflect their focus in marketing products that can generate higher crop yield and marketable quality through metabolism stimulation, nutritional optimization and other noticeable effects such as resistance to abiotic stress that could improve crop profitability. Bayer East Africa has a significant position on the global market for fungicides and insecticides and is

now retailing four of their leading products into the Kenyan market:

In one of the seminars, the guest speaker Mr. Anthony Songoro took growers through the Bayer philosophy to growers. “Our plan is to work with growers not to offer curate but to prevent plants from diseases. Growers see far more of their disease free crop reaching optimum maturity, enabling them to harvest



of temperature ranging from low to high. Being lipolilic in nature makes spray deposits bond to the waxy layer of the cuticle and exhibits long lasting activity”. The products loco-systemic action properties make a high proportion of the active stay where it is targeted for perfect control of botrytis. Its activity is independent of temperature and has long lasting activity. This unique feature assures Teldor protects flowers in the green house, cold room, during shipment, at the auction, the supermarket and in the vase.

He advised growers to apply the product just before harvesting to enjoy its long lasting activity to the vase.

Growers interactively discussed of their experience in the field. The growers agreed they needed products which offer the best long lasting efficacy from less spays. They need products which can live happily with biological control agents, which are safe to users, consumers and the environment. Mr. Maina Ngunju Floriculture Manager assured grower that Luna fitted in their description. He assured them that all their products were available with their distributors (Elgon Kenya Ltd and Amiran Kenya Ltd) who were well represented in the seminar.

Present during the meeting were all Bayer East Africa technical sales representative among others who interacted with the growers for more technical consultative personalised meetings after the seminar. Growers unanimously thanked Bayer East Africa for the initiative to open up the Pandora box. The countrywide seminars were held in Kitengela, Nakuru, Nyahururu, and Naivasha. They will also be held at Mt Kenya, Thika, Eldoret and Nanyuki.

Chrysal has the Answer against Ethylene

AVB + AVB Booster

Chrysal AVB

Chrysal AVB is a post-harvest conditioner for ethylene sensitive summer flowers. Dependent on the flower type the positive effect may manifest itself by an improved vase life, a diminished dropping of blooms, leaves and buds and an improved bud opening.

The active ingredient in Chrysal AVB is silver for which Chrysal developed a neutralization method based on the use of Chrysal Tecitine and Chrysal Flocculine. This way most silver can be recovered prior to the disposal of any waste solution.

Vase life Alstroemeria



Treatment: water

Total vase life: 13 days

Treatment: Chrysal AVB

Total vase life: 19 days

Vase life Dianthus



Treatment: water

Total vase life: 5 days

Treatment: Chrysal AVB + Booster

Total vase life: 16 days

The Beauty of Chrysal



NEW FORMULATION OF

Chrysal AVB Booster



Chrysal AVB Booster improves the performance of post-harvest conditioner Chrysal AVB. It stimulates the water and silver (STS) uptake. Especially effective for ethylene sensitive summer flowers, like carnations and dendrobium.

Herewith we inform you about a change in the dosing of our **Chrysal AVB Booster** from 0,5ml per liter to **1ml per liter**.

This change to the concentration brings the product in line with most other Chrysal post-harvest products. The increase in dosing will have an improving effect on the stability of the concentrated product.

Vaselife Dianthus mixed

Fresh pre-treatment solution

Photo's taken: day 9 consumer phase

WATER



Used pre-treatment solution (4 days old)

Photo's taken: day 9 consumer phase

WATER



Chrysal AVB + Chrysal AVB Booster



Chrysal AVB + Chrysal AVB Booster





Botrytis: Think about where you are

Botrytis is one of the most damaging pathogens with stems, leaves, flowers, fruit and seedlings all being potential victims. Many growers are familiar with the symptoms of Botrytis, but for some, the first encounter with this pathogen results in severe plants losses therefore early detection and control are vital if the disease is to be prevented from rapidly spreading through a crop.

While Botrytis is a formidable pathogen, it is also the same fungi which is employed by some wine makers and was even given the name 'The Nobel rot' for its ability to concentrate sugars and impart a particular flavor to late harvest grapes. Wine makers in many areas of the world make use of Botrytis infection of their grapes to produce a sweet, high quality wine, which commands high prices. Despite this beneficial use of Botrytis, it is a disease, which plagues commercial and hobbyist growers alike, and one that affects virtually all of the crops we grow

hydroponically.

Botrytis symptoms

Plants can be attacked at any stage of growth, from tiny seedlings to large, mature plants, but new succulent growth, freshly injured tissues and ageing or dead foliage are favored by this disease. Botrytis usually first appears as lesions on leaves and stems which quickly produce a characteristic grey/brown furry spore development which resembles a pile of ash - hence the name 'grey or ash mould'. As the disease progresses the lesions continue to grow and encircle stems and leaf petioles and will eventually cause plant collapse. Fungal spores can also develop on flower petals, particularly under growing conditions where condensation has been forming and humidity levels are high.

Infection of flower petals leads to rapid disease development in young fruit with the fruit tissue rapidly disintegrating into a water soaked mass. Green fruits that are infected



with airborne Botrytis spores, rather than via infected leaf tissue, don't rot and decay, but they often develop a condition called 'Ghost spot' which results in pale, cream colored rings on the surface of the fruit.

Post harvest rots can often be attributed to Botrytis infection as well, especially when increased humidity in storage promotes the germinating of spores present on the surface of the cut foliage. These

rots appear as large water soaked areas often covered with grey mould termed 'conidiophores'.

Fungal life cycle

Botrytis is commonly a disease associated with humid conditions, which are required for successful spore germination and temperatures around 150C- 230C, although it can thrive in cooler conditions. Crops grown towards late winter and early spring are most susceptible to disease although it can be prevalent throughout the year in grow rooms. Spores germinate faster as the relative humidity approaches 100% and germination is most rapid where free water is present on the plant foliage such as that produced by condensation.

Once spores germinate on the plant they enter the host tissue and form mycelium, which invades the intercellular spaces within the plant tissue. This mycelium then forms conidiophores, which emerge through the infected tissue and release conidia into the air. If infected stems and foliage are not removed from the growing area, they become a source of conidia, which develop on lesions and

rapidly infect healthy crops when conditions are suitable. High temperature and dry conditions eliminate the survival spores from one crop to the next.

Spores are released from infected crops when the crop is disturbed as in pruning or harvesting and these spores readily infect more plants through open cuts on the stems. Spores are not only produced in large numbers on lesions on the plant, but also on plant debris left in the growing area and in piles of discard plant material outside of the plants environment. These can provide a source of re-infection and so diseased plant material needs to be disposed of carefully to prevent further outbreaks. Spores are easily spread in air currents and by splashing of water, and infection can occur rapidly in an area where both these methods of transfer can occur.

Plant stress, which results in overly vigorous or spindly plants, causes the crop to become more susceptible to Botrytis infection. This stress may be in the form of over or under watering, heat, light or tissue damage. There are other factors which also influence the development of this disease, maximum sporulation takes place at wave lengths less than 345mm - and excess nitrogen fertilization can make plants more susceptible to the fungi by changing the size and wall structure of the plants. Calcium and silica enrichment of the plant tissue has been shown to reduce the susceptibility of many plant species to Botrytis infection by strengthening the cell walls against initial attack by the fungus.

Crop management for Botrytis control

Environmental control of Botrytis is crucial to the management of many crops and is based on increasing temperature and reducing relative humidity levels to create an environment, which is not conducive to spore development and germination. Heating and venting of humid air, allowing drier air to enter the crop environment on a continual basis is important for Botrytis prevention. If warm humid air is allowed to cool in the crop overnight, condensation forms, providing the idea conditions for spore germination of Botrytis.

Crop pruning and harvesting should be carried out at separate times as spores released from infected plants during pruning will easily

infect cuts or open surfaces exposed during harvesting. If some time elapses between the two operations, callus tissue can form over cut or open surfaces protecting the plant from spore germination and infection.

Control of Botrytis - chemical and microbial

While there are some fungicides still effective for Botrytis control, much resistance has developed to many chemical products and their use is becoming limited. However, early control can still be achieved in some situations. Where persistent Botrytis attacks are common, the various chemical groups should be alternated to restrict the build up of resistance by the pathogen to the fungicide used. There has been some success with the use of various botanical extracts for limiting and preventing Botrytis damage - certain citrus extracts appear to be a promising control agent although many are still under evaluation.

These days, perhaps one of the most effective controls against Botrytis is the use of biological control agents. Many natural bacterial and fungal antagonists can suppress Botrytis through competition. In some research carried out in New Zealand a few years ago, it was found that a number of fungi are antagonistic to Botrytis and will prevent the infection of fresh wounds on the plant.

Two of the most effect types are Trichoderma and Cladosporium, which have now been developed into a number of commercially available products for pathogen control. The methods by which these fungi appear to work involve a complex interaction with the pathogen. The antagonist organism competes with the pathogen for nutrients and sites for spore germination. Also, some of the antagonists produce compounds that inhibit the germination of the pathogen's spores.

Control of Botrytis in the growing environment can be a continual battle under certain conditions, but control is possible with a combination of humidity reduction, prevention of condensation, good hygiene and chemical/ microbial control agents. Just as with all other pests and disease problems, monitoring the crop for the first signs of infection is vital, as is providing the conditions, which restrict or prevent the pathogen attacking in the first place.

“No one thought bi-colored flowers would become popular”

“A couple of years ago, no one would have thought that bi-colored or color changing flowers would become popular. Now, they are hot all over the world”, says Yoav Scholz of GGG Grünewald, a breeder and propagator of bedding and balcony plants.



introduced the Dahlia “Starlias” series, there was no market for bi-colored varieties, but now, our bi-colored dahlias are the top sellers in the ‘Starlias’ series,” says Scholz.

Change in genetics

Next to colors, the genetics are of great importance. According to Scholz, when breeding new varieties, they need to take into account the entire chain from the cutting till transport from the customer to the retail. “Over the

However, not only is the demand for colors constantly changing, so are the genetics of many traditional varieties. “When breeding new varieties, we need to take into account the entire production chain from the cutting, growing, logistics and the finished product from our customer to the retail. A good example to illustrate this trend is with our Dahlia ‘Starlias’ series. We are always working

to keep this ‘old plant’ attractive by adapting to new trends quickly.”

More open to bi-colors

According to Scholz, people are more open to new colors at the moment. “All over the world, we notice an increase in demand for striking colors and especially the bi-colored varieties. Approximately five years ago, when we just

years, a lot changed for this traditional dahlia,” says Scholz. “Firstly, Growers increasingly ask for plants that flower early. The market is becoming more and more early over the years. Secondly, they want plants that are more compact, therefore, more plants can be placed in the greenhouse and during transport. Finally, the growing habits of the entire

Bloomingdale Roses introduces two new roses

Bloomingdale Roses from Kenya extends its assortment with two new large bud varieties: ‘Double Fashion’ and ‘Blush’. Both varieties in the assortment of Bloomingdale Roses are available at the Aalsmeer auction rose clock effective Friday 17th of June.



Double Fashion is a bi-coloured white rose with cherry coloured edges. The large flowered Double Fashion has flower buds of 5-6 cm. and is available in lengths of 60 - 80 cm. The Double Fashion is a variety of breeder Nirp International and its product code is 117930. The vase life of Double Fashion is at least 10-12 days.

Blush® is also a bi-coloured rose, but red, and has flower buds of 5-6 cm. These large flowered roses are available in lengths of 60-80 cm, it is a variety of breeder Interplant and the product code is 25641. Blush has a very long vase life of 14 - 16 days.



Assortment

The 13 varieties of Bloomingdale Roses are from the high quality breeders Interplant, Kordes, Nirp International, Preesman, Schreurs

Interplant presents 2 new Intermediate Hybrid-Tea varieties

Interplant presents 2 new Intermediate Hybrid-Tea varieties: Hilux and Motown.

Hilux is an intense orange-red coloured Intermediate rose, stemlength 50 - 70 cm, vaselife 10 - 12 days, medium production level.

Motown is a soft orange-pink coloured Intermediate variety, stemlength 50 - 70 cm, average vaselife of 14 - 16 days, medium production level.

Interplant East Africa focuses on water conservation



Interplant Roses East Africa is not just growing roses these days. Due to high demand, they are in the process of expanding their operation as well at the moment.

But as in other parts of the world, water conservation is a main issue in the Lake Naivasha district. Interplant has decided to build its own closed circuit recycling system based upon reverse osmosis and UV light to maintain water quality.

By investing in their own recycling system, they can safeguard a steady and qualitative flow of fresh water and support the regional initiatives for a sustainable water supply.

African growers threaten Dutch flower power

The Netherlands is fighting to retain its crown as the world's top auction house for flowers as growers in Africa and elsewhere increasingly sell directly to buyers.

The country grew wealthy selling tulip bulbs in the 17th century during the so-called Dutch Golden Age and remains the second largest agricultural exporter behind the United States. For decades the FloraHolland cooperative has acted as the hub from which plane-loads of flowers from around the world are distributed from vast, air-conditioned warehouses in Aalsmeer, near Amsterdam airport.

The company says it distributes almost 50 percent of all flowers sold worldwide and last year it reported sales of 4.6 billion euros (\$5.13 billion), mostly from matching growers and buyers at its famous early-morning daily auctions. But worryingly for FloraHolland Chief Executive Lucas Vos, sales of flowers by growers directly to buyers have overtaken those sold through FloraHolland's auctions.

Direct sales from members of the cooperative bypassing the auctions rose by 3.8 percent to 2.3 billion euros last year. Auction sales stood



at 2.1 billion euros, down 1 percent. "We need to realize that if, for instance, we want to get flowers into China or India ...the logistical system we have built for ourselves probably does not fit," said Vos, who was brought in from shipping firm Maersk in 2014. In response, FloraHolland is looking to make changes to an auction system that dates back more than 100 years. It is investing up to 90 million euros over the next five years and plans to develop a 24-hour online dealing platform. It will be like "a Tinder or AirBNB" for flowers, Vos said.

That could eventually lead to the Dutch auction halls, where some 3,000 work, falling silent, but change is already apparent; some 70 percent of sales come from remote bidders. Vos remains confident, however. "Most producers grow one type of flower, and if you're a consumer, you want a bouquet," he

said. "There will always be a need for a hub."

Overseas Sites

For European markets, it makes sense to gather flowers in Amsterdam before trucking them to Britain or Russia.

And for growers in Kenya or Ethiopia, for example, being among FloraHolland's 4,600 members helps

maintain stable prices in the face of powerful buyers such as Europe's top supermarket chains. Some 50 percent of Kenya's flower exports are sold via FloraHolland, and 70-80 percent of Ethiopia's.

But being members also means they must commit to sell all of their output via FloraHolland and that can be a handicap when trying to reach Chinese or Indian markets. Vos said FloraHolland plans to open logistics sites overseas, either near growers in Europe or Africa or near Asian buyers, to preserve the company's central role in a more devolved global flower trade. At stake is the Netherlands' dominance in the global flower trade, which is slipping. The Netherlands exported 52 percent of the world's cut flowers in 2013, down from 58 percent in 2003, according to Rabobank.

Good demand and prices This low season

For many cut rose growers, this time of the year is considered to be the low season. The holy month of Ramadan in the Middle East and the upcoming summer period in Europe often results in a lower demand. However, this year, the demand and therefore also the prices are higher than expected. They are both about 10 percent higher compared to last year during this time of the year. This increase is mainly due to the cold weather in Kenya at the moment.

Cold weather

Kenya currently has to deal with colder weather than usual. The temperature during day-time at this time of year normally is about 20 degrees Celsius in the lower altitudes. Now, however, it is about 5 degrees lower; about 12-to 15 degrees Celsius during day-time. And these lower temperatures affect the production. During this time of the year, the production at many farms drops by 10 percent in general. Now, due to the cold weather, the production decreased by 15-20 percent. And as a consequence, growers experience a higher demand and prices.

Tough year

According to growers, it has been a tough year for many farmers till now. "In March -April many farms were in high production, so there was an oversupply of flowers on the market, which resulted in low prices at the auction. And in May, June many farms had to deal with a lower production and the occurrence of diseases like downy mildew and botrytis, that were caused by heavy rains." But the lower production was also beneficial for some farms as the prices at the auction increased sharply.

Expanding markets

Most of the growers are always looking to expand markets and that is why they attended IFTEX. "We want to diversify our direct markets more, because in different countries, you have to deal with different seasons. Now, for example, we have Ramadhan which drops the demand in the Middle East, and the summer season in Europe in, but in other countries this is not the case. So, by expanding our markets, we hope to have a more constant demand throughout the year", says Mary Mwangi of valentine Growers.

Breakthrough in breeders' Rights discussions

The European Commission wants to offer clarity and legal certainty about patenting the natural traits of vegetables and other plants through further interpretation of the biotech directive. This was announced by European Commissioner for the Internal Market Elżbieta Bieńkowska at the symposium 'Finding the Balance' in Brussels, organised by Minister for Agriculture Martijn van Dam in the context of the Netherlands EU Presidency.

Breakthrough

'This is a definite breakthrough in the discussion on patent law and plant breeders' rights,' the minister said in his opening speech. 'The Netherlands has always opposed the patenting of natural plant traits and biological processes. A monopoly on fruit and vegetables is illogical and undesirable. Nature belongs to us all. It's great that the Commission is taking this step. We're not there yet, but a major hurdle has now been overcome.'

Plant breeders' rights

The discussion about patenting natural characteristics began in 2012 and intensified in 2015 when the European Patent Office board of appeal ruled that products obtained through crossing or other breeding techniques can be patented. This goes against the traditional plant breeders' right that allows them to further develop each other's findings.

Promoting innovation

'The Netherlands is a global player when it comes to growing and breeding plants,' Mr Van Dam said. 'The sector profits from the free availability of biological material. This promotes innovation in plant breeding which in turn improves both the Netherlands' competitive position and, ultimately, global food security.'

Practical solutions

At the symposium in Brussels, Commissioner Bieńkowska indicated that the Commission is working on a closer interpretation of the existing biotech directive. The Commission believes that amending the directive itself is not the answer. The interpretative declaration will be presented by the Commission by the end of this year. It will be part of a broader package of practical solutions put forward at the symposium. Examples include more transparency, better access to biological material and improved cooperation between the European Patent Office and the Community Plant Variety Office.

Source: The Netherlands EU Presidency 2016

Stokman Rozen increases PRO rootstock production

Stokman Rozen will increase their Plant Research Overberg (PRO) rootstock production in Kenya. “Currently, the demand exceeds the supply, so we need more space”, says Peter van de Pol, director of the company and breeder of these new rose rootstocks. For this reason they recently added a new 0.5ha sized greenhouse and are planning to double this acreage soon.

New greenhouse

The PRO rootstocks were officially launched in Europe and Africa the beginning of 2016. For Europe, the rootstocks are being produced by Interrose (Kordes) in De Kwakel, the Netherlands, and for Africa at Stokman Rozen in Naivasha, Kenya. Recently, they opened a new 0.5 ha sized greenhouse at Stokman Rozen that will be fully used for the production of PRO rootstocks. This new greenhouse is now being prepared for its first production and the possibility to expand the greenhouse is taking into account and implemented in the design.

It can be expanded to 1ha. “Currently the demand exceeds the supply and with this new greenhouse, we expect to meet the demand for the 2017 propagation season”, says van de Pol.



have more, thicker or longer stems. “A rise of 10% is very well possible, but we have often seen much higher numbers, even with known high producers like Avalanche or Red Naomi”, explains van de Pol. “And varieties which cause problems like thin stems, lack of numbers etc, may become interesting again”, he adds.

Increasing demand

According to van der Pol, the PRO rootstock is accepted well in the market. “We are one of the few in the field of rootstocks and we are getting more traction in the market space, not only here in Africa, but also in Europe. The demand is increasing. So, overall, we are very satisfied”, he says.

Future plans

Next to expanding the production of the PRO rootstocks, van de Pol is also planning to launch the rootstocks in other countries. “Soon, the PRO rootstocks will also be available in North- and South-America and Japan.”

10% increase in biomass

At Stokman Rozen in Naivasha, two types of PRO rootstocks are being produced; Protatu and Protano. Both varieties will increase the biomass of the plant. Depending on the rootstock chosen, the plant will either

Flower growers honoured as council rebrands

Several flower farmers were awarded for helping make the industry bloom. Kenya Flowers Council (KFC), the umbrella body for flower growers, held the award ceremony in an event in which the regulator also rebranded, taking up a new logo.

Waridi Farm, Suera Flowers, Flamingo Horticulture Kenya and Oserian are among companies that were honoured for good performance in the



industry. Others awarded were Finlay Flowers. John Njenga and Joseph Oketch, who work for KFC were awarded, for their long standing partnership and long time services to the council respectively.

“Kenya produces world-class flowers, we should focus on improving the flower exports as they account for a huge percentage of the country’s exports to the European Union,” said KFC’s CEO Jane Ngige.

“As we celebrate 20 years of our presence in the country’s flower industry, it is only important that we rebrand to reflect our



continued commitment towards helping flower farmers achieve their goals in the global flower industry,” added Ngige as she unveiled KFC’s new logo.

Economic Partnership Agreement

Elgon Kenya’s CEO Bimal Kantaria, whose company was one of the sponsors of the event, noted that negotiations are in place to strengthen the East African Community-European Union Economic Partnership Agreement, which allows countries in the regional to access the global market.



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FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA- Flowers		Nakuru	Banerjee	0704788852	banerjee@aaagrowers.co.ke
AAA Growers	Vegetables/Flowers	Nairobi	Musa Sando	0787866022	sando@aaagrowers.co.ke
AAA-Chestnut		Narumoru	Kiai/Sando	0722944030	sando@aaagrowers.co.ke
AAA-Growers		Nakuru	Moses Sando	0787866022	sando@aaagrowers.co.ke
AAA-Hippo		Thika	Steve	0721778736	julius@aaagrowers.co.ke
AAA-Roses		Rumuruti	Julius Ruto	0720330039	turiagronomy@aaagrowers.co.ke
Acacia Farm-Sunripe		Naivasha	Antony	0711827785	naivasha@sunripe.co.ke
Africala		Limuru	Rob	0721-837968	sales@africala.com
African Blooms	Roses	Nakuru	Samir Chandorkar	0735384552	samir.chandorkar@xflora.net
Afriscan Kenya Ltd	Hypericum	Naivasha	Reuben Kanyi	0723920237	
AgriFlora Ltd	Flowers	Nakuru	Clement Kipngetchi		cngetich@sianroses.co.ke
Akina Farm	Roses	Nakuru	Arfhan	0722728441	arfhan@fontana.co.ke
Alani Gardens	Roses	Nakuru	Judith Zuurbier	0722 364 943	alani@alani-gardens.com
Altitude Flowers	Flowers	Nakuru	Dominic Koeh	0723684277	
Aquila Development Co	Roses	Naivasha	Prakash Shinde	0710791746	pm@aquilaflowers.com
Ayana Farm	Roses	Nakuru	Gideon Maina	0721178974	gideon@fontana.co.ke
Bamboo Farm-Sunripe		Nakuru	Reuben	0723920237	
Balaji	Roses	Olkalou	Balasaheblingawae	0735593016	balasaheb.ingawale4@gmail.com
Baraka Farm	Roses	Nakuru	Lucy	0720554106	lucy@barakaroses.com
Batian Flowers	Roses	Nanyuki	Dirk Looj	0720102237	dirk@batianflowers.com
Beautyline	Flowers	Naivasha	Peter Gathiaka	0722676925	peter@beautyli.com
Bigot Flowers	Flowers	Naivasha	Kakasaheb Jagtap	0722205271	jagtap.kt@bigotflowers.co.ke
Bila Shaka Flowers	Roses	Naivasha	Joost Zuurbier	0722204489	bilashaka.flowers@zuurbier.com
Bondent	Eryngiums	Nanyuki	Richard Fernandes	062-31023/6	bondent.production@karik.biz
Black Petals		Limuru	Nirzar Jundre	0722848560	nj@blackpetals.co.ke
Blissflora Ltd	Roses	Nakuru	Apachu Sachin	0789101060	appachu7@yahoo.com
Blue Sky		Naivasha	Mike	0720005294	info@blueskykenya.com
Blooming Dale Roses Kenya Ltd	Flowers	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms		Nakuru	Shivaji	0720895911	shivani@karik.com
Carnation Plants	Roses	Athiriver	Ami R.	0733626941	amir@exoticfields.com
Carzan Kipipiri	Flowers	Naivasha	Nicholas	0721844367	kipipiri.production@carzankenya.com
Carzan Kipipiri	Flowers	Naivasha			gm@carzankenya.com
Carzan Rongai		Nakuru	Paul M.	0711838689	rongai.production@carzankenya.com
Charm Flowers	Flowers	Athiriver	Ashok Patel	020 352583	ashki@wananchi.com
Colour Crops	Hypericum	Nanyuki	Vincent	0721652231	colourcrops@tmu.com
Colour crops	Flowers	Nakuru	Maina	0722578684	bahati@colourcrops.com
Colour crops Naivasha	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Countrywide Connections		Nanyuki	Peterson Thuita	0724786004	bondet.production@kariki.biz
Delemere Pivot		Naivasha	Daniel Ondiek	0720395963	daniel.ondiek@vegpro-group.com
Desire Flowers	Flowers	Isinya	Rajat Chaohan	0724264653	rajatchaohan@hotmail.com
De ruiters	Breeder Roses	Naivasha	Fred Okinda	0722579204	Fred.okinda@deruiter.com
Double Dutch	Cuttings	Naivasha	James Opiyo	0723516172	Opiyojames160@gmail.com
Duro Farms (Rain Forest land)	Roses	Naivasha	Julius Kigamba	0723665509	jkigamba@fleurafrica.com
Elbur flora	Roses	Nakuru	Daniel Moge		
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Equator Roses	Flowers	Eldoret	Charles Mulemba	0721311279	cmulemba@sianroses.co.ke
Equinox	Flowers	Nanyuki	Tom Lawrence	0722312577 T	tom@equinoxflowers.com
Everflora Ltd.		Thika	-	0735873798	everflora@dmbgroup.com
Fairy Flowers	Flowers	Limuru	Sylvester	0753444237	sylvesterkahoro@yahoo.com
Fides Kenya Ltd	Cuttings	Embu	Francis Mwangi	068-30776	
Flamingo Holdings Ltd-Flamingo	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@finlays.net
Flamingo Holdings Ltd- Ibis	Flowers	Nanyuki	Purity Thigira	0722279176	purity.thigira@finlays.net
Flamingo Holdings Ltd-Kingfisher	Flowers	Naivasha	Charles Njuki	0724391288	charles.njuki@finlays.net
Flamingo Holdings Ltd- Kingfisher	Flowers	Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@finlays.net
Flamingo Holdings Ltd- Ibis Farm	Vegetables	Nanyuki	Augustine Mwebia	0721447430	augustine.mwebia@finlays.net
Flamingo Holdings Ltd-Siraji Farm	Carnations, Roses	Nanyuki	John Magara/Peris	0729050116	peris.ndegwa@finlays.net
Finlays -Kericho	Flowers	Kericho	Elijah Getiro	0722873539	elijah.getiro@finlays.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Finlays -Tarakwet	Flowers	Kericho	Japheth Langat	0722863527	japhet.langat@finlays.co.ke
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	Richard Siele	0721486313	richard.siele@finlays.co.ke
Flamingo flora	Roses	Njoro	Sam Nyoro	0721993857	s.ivor@flamingoflora.co.ke
Flora ola	Roses, Hypericum	Solai-Nakuru	Wafula	08382972	floraola1td@gmail.com
Flora Delight		Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke
Florenza	Roses	Nakuru	Yogesh	0715817369	
Fontana Ltd-Salgaa		Nakuru	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd		Nakuru	Girrish Appana	0726089555	production@fontana.co.ke
Fox Ton Agri		Naivasha	Jim Fox	0722204816	jim@foxtonagri.com
Fpeak		Thika	Mutiso/Titus	0711214396	anthonymutiso@gmail.com
Frigoken K Ltd	Vegetables	Nairobi	Nicholas Kahiga	0722797547	nicholas.kahiga@frigoken.com
Gatoka Roses	Roses	Thika	Chris	0723408471	gatoka@swiftkenya.com
Gladioli Ltd		Naivasha	Pieriguichi / Claudia	0722206939	torres.palau@yahoo.com
Golden Tulip	Roses	Nakuru	Ravi	0723159076	ravi@bth.co.ke
Golden Tulip (Laurel Inter.)	Roses	Nakuru	Ashok	0738359459	ashok@btl.co.ke
Gorge Farm		Naivasha	Patrick Mulumu	0722498267	pmulumu@vegpro-group.com
Groove	Flowers	Naivasha	John Ngoni	0724448601	grovekenya@gmail.com
Hamwe	Hypericum	Naivasha	Peter Kamwara	0721758644	hamwe.fm@kariki.biz
Hamwe- Molo	Fowers	Nakuru	Joseph Juma	0725643942	production.fm@kudenga.co.ke
Harvest / Manjo Plants	Roses	Naivasha	Phanuel Ochungu	0722506026	phanuel.ochunga@gmail.com
Harvest Ltd	Roses	Athiriver	Mr. Farai Madziva	0722-849329	farai@harvestflowers.com
Highland plantations	Cuttings & Herbs	Olkalou	Amos Mwaura	0726726392	production@highlandplants.co.ke
Imani Flowers	Flowers	Nakuru	Moses	0722977214	
Indu Farm		Naivasha	Wesley Koech	0715546908	
Indu -Olerai Farm		Nakuru	Everline Debonga	0723383160	everlyne.adhiambo@indu-farm.com
Interplant Roses	Roses	Naivasha	Gavin Mouritzen	0733220333	info@interplantea.co.ke
Isinya	Flowers	Isinya	Pradeep	0736586059	pm@isinyaroses.com
Jatflora		Naivasha	James Oketch	0724418541	jatflora@gmail.com
Jesse AGA		Mweiga	Thuranira	0754444630	davidt@eaga.co.ke
Karen Roses	Flowers	Nairobi	Peter Mutinda	0723353414	pmutinda@karenroses.com
Kariki Ltd.		Thika	Samwel Kamau	0723721748	production@kariki.co.ke
Karuturi	Flowers	Naivasha	Rob		rob.paul@twigaroses.co.ke
Twiga Flowers	Flowers	Naivasha	pius Kimani	0721747623	pius.kimani@gmail.com
Kenflora Limited		Kiambu/ Limuru	Abdul Aleem	0722311468	info@kenflora.com
Kentalya		Naivasha	Linnnet	0733549773	lynette@kentalya.com
Kenya Cuttings	Flowers	Ruiru	James Ouma	0725217284	john.odhiambo@syngenta.com
Kenya Cuttings	Flowers	Thika	Kavosi Philip	0721225540	philip.munyoki@syngenta.com
Kenya Pollen Flowers	Flowers	Thika	Joseph Ayieko	0733552500	joseph.ayieko@syngenta.com
KHE		Nanyuki	Elijah Mutiso	0722254757	mutiso@khekenya.com
Kisima Farm	Roses	Timau	Martin Dyer	0722593911	martin@kisima.co.ke
Kongoni River Farm-Gorge Farm	Roses	Naivasha	Anand Patil	0728608785	anand.patil@vegpro-group.com
Korongo Farm		Naivasha	Macharia	0721387216	
Kreative	Roses	Naivasha	Bas Smit	0722 200643	info@kordesroses.com
Lamorna Ltd	Roses	Naivasha	Mureithi	0722238474	admin@lamornaflowers.com
Lathyflora		Limuru	Mbauni John	0721798710	mbaunij@yahoo.com
Lauren International	Flowers	Thika	Chris Ogutu/Carlos	0722783598	laurenflowers@accesskenya.co.ke
Lex International	Roses	Naivasha	Steve Outram	0733 609863	steve@lex-ea.com
Liki River	Flowers	Nanyuki	Madhav Lengare	0722202342	madhav@vegpro-group.com
Liki River	Flowers	Nanyuki	Nitin	0700000342	nitin.golam@vegpro-group.com
Livewire	Hypericum	Naivasha	Esau Onyango	0728606878	management@livewire.co.ke
Lobelia Ltd/ Sunland	Roses	Timau	Peter Viljoen	0721632877	info@lobelia.co.ke
Lolomarik	Roses	Nanyuki	Topper Murry	0715 727991	topper@lolomarik.com
Loldia Farm		Naivasha	Gary/Rotich	0720651363	
Longonot Horticulture		Naivasha	Chandu	0724639898	chandrakant.bache@vegpro-group.com
Longonot Horticulture		Naivasha	Patrick Mulumu	0722498267	patrick.mulumu@vegpro-group.com
Maasai Flowers	Flowers	Isinya	Andrew Tubei	0722728364	atubei@sianroses.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Magana	Roses	Nairobi	Lukas	0788695625	farmmanager@maganaflovers.com
Mahee	Roses	Nakuru	Senthil Bharathi	0789777145	maheefm@eaga.co.ke
Mahee Wilham	Vegetables	Nakuru	Missire	0754444629	maheevf@eaga.co.ke
Maji Mazuri Roses	Flowers	Eldoret	Wilfred Munyao	0725848912	wmunyao@majimazuri.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflowers.com
Maua Agritech	Flowers	Isinya	Madan Chavan	0738669799	production@mauaagritech.com
Mauflora	Roses	Nakuru	Mahesh	0787765684	mahesh@mauflora.co.ke
Milmet/Tindress Farms	Flowers	Nakuru	Pravin		pravinyadav.29@gmail.com
Molo Greens Ltd	Flowers	Nakuru	Justus Metho	0722755396	justus@mologreens.co.ke
Molo River Roses	Flowers	Nakuru	A. Wambua	0724256592	awambua@moloriverroses.co.ke
Mwanzi Farm	Roses	Rumuruti	Peter Wekesa	0723027208	
Mt Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395	bob@mtelgon.com
Mweiga Blooms	Flowers	Nanyuki	Stewart/ Mburu	0721674355	mweigablooms@wananchi.com
New holland - Laurel Investment	Roses	Nakuru	Ashok	0738359459	
Nini Farms	Roses	Naivasha	Menjo / Philip	0720611623	production@ninitd.com
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
OI Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Olij Kenya Ltd	Roses	Naivasha	Sally Nicholas	0737888028	v.bhosale@olijkenya.com
Oserian	Flowers	Naivasha	Musyoka Stephen	0722888377	stephen.musyoka@oserian.com
Panda Flowers	Roses	Naivasha	Chakra	0786143515	chakra@pandaflowers.co.ke
Panocol International	Roses	Eldoret	Mr. Paul Wekesa	0722748298	paul.wekesa@panocol.co.ke
Penta	Flowers	Thika	Tom Ochieng	0723904006	tom@wananchi.com
United Selections	Roses	Nakuru	Benard Ndungu	0721630887	
Pj Dave	Flowers	Isinya	Simiyu	0723500049	pidavetimau@pidaveepz.com
Pj Flora	Flowers	Isinya	Palani Muthiah	0752607651	muthiah.palani1971@gmail.com
Pj Thande Farm		Kiambu/Limuru	Elizabeth Thande	0722380358	elizabeth@wetfarm.co.ke
Plantation Plants	Cuttings	Naivasha	William Momanyi	050 20 20282	pplants@kenyaweb.com
Porini Ltd	Flowers	Nakuru	Pitambar Ghahre	0726774955	porini@isinyaroses.com
PP Flora	Roses	Nakuru	Robert /Prakash	0718045200	ppflora2010@gmail.com
Primarosa	Flowers	Athi RiVer	Dilip Barge	0731000404	dilip@primarosaflovers.com
Primarosa	Roses	Nakuru	Kadam	0721274413	kadam@zuri.co.ke
Racemes Ltd		Naivasha	Bonny	0721938109	bonny@kenyaweb.com
Ravine Roses Flowers	Flowers	Nakuru	Peter Kamuren	0722205657	pkamuren@karenroses.com
Redland Roses		Thika	Aldric Spindler	0733603572	aldric@redlandsroses.co.ke
Redwing Flowers	Flowers	Nakuru	Simon Sayer	0722227278	sayer@redwingltd.co.ke
Rift Valley Flowers Ltd	Flowers	Naivasha	Peterson Muchuri	0721216026	fm@riftvalleyroses.co.ke
Rimiflora Ltd		NaivaSha	Richard / Stephen	0722357678	richard@rimiflora.com
Riverdale Blooms Ltd		Thika	Antony Mutugi	0202095901	rdale@swiftkenya.com
Roseto	Roses	Nakuru			gm.roseto@megaspingroup.com
Rozzika Gardens –Kamuta Farm		Naivasha	Mbuthia	0721849045	jwachiram@yahoo.com
Savannah international	Geranium	Naivasha	Ignatius lukulu	0728424902	i.lukulu@savanna-international.com
Selecta Kenya		Thika	Alnoch Ludwig	0738572456	l.allnoch@selectakenya.com
Soljanmi	Fowers	Njoro	Kirani Nangare	0787787544	kiran.nangare@xflora.net
Schreus	Roses	Naivasha	Pradeep		
Shades Horticulture	Flowers	Isinya	Mishra	0722972018	info@shadeshorticulture.com
Shalimar Flowers	Flowers	Naivasha	Anabarasan	0733604890	anbarasan@eaga.co.ke
Sierra flowers Ltd	Flowers	Nakuru	Sherif	0787243952	farm.sierra@megaspingroup.com
Simbi Roses		Thika	Andrew	067 44292	simbi@sansora.co.ke
Sirgeok Flowers	Flowers	Eldoret	Andrew Keitany	0715 946429	sirgeok@africaonline.co.ke
Solai Milmet/Tindress	Flowers	Nakuru	Ravindra	0788761964	tindressmilmet@gmail.com
Star Flowers Flowers	Flowers	Naivasha	Dinkar	0789487429	dinkar@vegpro-group.com
Subati Flowers	Flowers	Nakuru	Naren Patel	0712 584124	naren@subatiflowers.com
Subati Flowers	Flowers	Naivasha	Naren Patel	0712 584124	naren@subatiflowers.com
Suera Flowers Ltd	Flowers	Nakuru	George Buuri	0724622638	gbuuri@suerafarm.sgc.co.ke
Sun buds	Hypericum	Naivasha	Reuben Kanyi	0723920237	kanyireuben@gmail.com
	Gypsophilla, Army				
Sunland Timau Flair	Roses	Timau	Peter Viljoen	0723383736	info@lobelia.co.ke
Stockman rozen	Roses	Naivasha	Julius muchiri	0708220408	julius@srk.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Tambuzi	Roses	Nanyuki	Paul Salim	0722 716158	paul.salim@tambuzi.co.ke
Terra nigra	Breeder--1ha	Naivasha	Peter van der meer		petervandermeer@terrannigra.com
Timaflo Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflo.com
Transebel		Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke
Tropiflora		Kiambu/Limuru	Niraj		tropiflora@africaonline.co.ke
Tulaga	Roses	Naivasha	Steve Alai	0722659280	tulagaflower@africaonline.co.ke
Tk Farm		Nakuru	Gichuki	0721499043	davidgichuki20@yahoo.com
Uhuru Flowers	Flowers	Nanyuki	Ivan Freeman	0713889574	ivan@uhuruflores.co.ke]
V.D.Berg Roses	Flowers	Naivasha	Johan Remeus	0721868312	
Valentine Ltd		Kiambu/Limuru	Maera Simon	0721583501	simon.maera@valentinegrowers.com
Van Kleef Ltd	Roses	Nakuru	Judith Zuurbier	0722 364 943	judith@vankleef.nl
Vegpro K Ltd Vegetables		Nanyuki	John Kirunja	0729555499	john.kirunja@vegpro-group.com
Vegpro K Ltd	Vegetables	Nairobi	Judy Matheka	0721245173	jmatheka@vegpro-group.com
Vegpro K Ltd	Vegetables	Nanyuki	John Nduru	0722202341	jnduru@vegpro-group.com
WAC International	Breeder	Naivasha	Richard Mc Gonnell	0722810968	richard@wac-international.com
Waridi Ltd		Athiriver	P. D.Kadlag	0724-407889	kadlag@waridifarm.com
Wildfire	Flowers	Naivasha	Boniface Kiama	0722780811	roses@wildfire-flowers.com
Wilmer	Summer Flowers	Thika	Wilfred M.Kamami	0733714191	kamami@wilmar.co.ke
Winchester Farm	Flowers	Nairobi	Raphael Mulinge	0725848909	rmulinge@sianroses.co.ke
Windsor		Thika	Vikash	073705070	vikash@windsor-flowers.com
Xpression Flora		Nakuru	Ashesh		
Zena	Roses	Thika	Arun Mishra	020 2328970	sales@zenaroses.co.ke
Zena Asai Farm	Roses	Eldoret	Laban Koima	0722554119	koima@zenaroses.co.ke
Zena Roses - Sosiani	Roses	Eldoret	Sylvester Saruni	0722635325	saruni@zenaroses.co.ke

FLOWER FARMS IN UGANDA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Rosebud	Ravi Kumar	Wakiso	0752 711 781	ravi.kumar@rosebudlimited.com
Roses	Maiye Estates	Premal	Kikwenda wakiso		premal@maiye.co.ug
Roses	Jambo flowers	Patrick Mutoro	Nakawuka Sisia Wakiso	(254) 726549791	pmutoro80@yahoo.co.uk
Roses	Pearl Flowers	Raghibir Sandhu	Ntemagalo Wakiso	0772 72 55 67	pearl@utlonline.co.ug
Roses	Aurum flowers	Kunal Lodhia Shiva	Bulega, Katabi Wakiso	0752 733 578	kunal@ucl.biz
Roses	Eruma roses	Kazibwe Lawrence	Mukono	0776 049987	kazibwe@erumaroses.com
Roses	Uga rose	Grace Mugisha	Katabi Wakiso	0772 452 425	ugarose@infocom.co.ug
Roses	Kajjansi	K.K rai	Kitende Wakiso	0752 722 128	kkrai@kajjansi-roses.com
Roses	Uganda Hortech	M.D hedge	Lugazi Mukono	0703 666 301	mdhedge@mehtagroup.com
Chrysanthemums	Fiduga	Jacques Schrier	Kiringente , Mpingi	0772 765 555	j.scherier@fiduga.com
Chrysanthemums	Royal Van Zanten	Jabber Abdul	Namaiba Mukono	0759 330 350	j.Abdul@royalvanzanten.com
Impatiens, poinsetia	Wagagai	Olav Boenders	Iwaka Bufulu Wakiso	0712 727377	olav@wagagai.com
Chrysanthemums	xclusive cuttings	Peter Benders	Gayaza- Zirowe rd	0757 777 700	pbenders@xclusiveuganda.com

FLOWER FARMS IN TANZANIA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Kili flora	Jerome Bruins	Arusha	255 27-25536 33	jbruins@habari.co.tz
Roses	Mt. Meru	Tretter	Arusha	255 27 2553385	office@mtmount-meru-flowers.com
Roses	Tengeru Flowers	Tretter	Arusha	255 27 255 3834	teflo@africaonline.co.tz
Roses	Hortanzia	Mr Micheal Owen	Arusha	255 784 200 827	hortanziagm@cybernet.co.tz
Hypericums	Kilimanjaro flair	Greg Emmanuel	Arusha	255 784 392 716	greg@kilimanjaroflair.com
Crysenthemums	Multi flower Ltd	Tjerk Scheltema	Arusha	255 27 250 1990	tjerk@arushacutting.com
Crysenthemums	Fides	Greg Emmanuel	Arusha	255 27 255 3148	fides@habari.co.tz
Crysenthemums	Dekker Bruins	Lucas Gerit	Arusha	255 27 255 3138	info@tfl.co.tz
Crysenthemums	Arusha cuttings	Tjerk Scheltema	Arusha	255 27 250 1990	tjerk@arushacutting.com



FLOWER FARMS IN ETHIOPIA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Linsen flowers	Peter Linsen	Holeta		Elinsenroset@ethionet.et
Roses	Hanjia	Holeta	0922 750602	Peter.Pardoen@karuturi.com	
Roses	Alliance flowers	Navale	Holeta		navele@nehainternational.com
Roses	Ethio dream Rishi	Holeta	Ethiopia	011 23 72335	holeta@jittuhorticulture.com
Roses	Holeta Roses Navale	Holeta	Ethiopia		navale@nehainternational.com
Roses	Supra Flowers	Kaka Shinde	Holeta	0911 353187	kakashind@rediffmail.com
Roses	Agriflora	M. Asokan	Holeta	0922 397760	flowers@ethionet.et
Roses	Ethio- Agricerft	Alazar	Holeta	0910 922 312	alazar@yahoo.com
Roses	Addisfloracom P.L.C	Kitema Mihret	Holeta	0912 264190	tasfaw@addisflora.com
Roses	Enyi- Ethio	Teshale	Sebata	0911 464629	enyi@ethionet.et
Roses	Lafto Roses	Andrew Wanjala	Sebata	0922 116 184	irrigation@laftorose.com
Roses	Eden Roses	Vibhav Agarwal	Sebata	0930 011228	vaibhavaggarwal1@hotmail.com
Roses	Ethio-passion	-	Sebata	0911 511 711	roshanmuthappa811@gmail.com
Roses	Golden Rose	Mr. Sunil	Sebata		
Roses	E.T Highlands		Sebata	0 911 50 21 47	bnf2etf@ethionet.et
Roses	Sharon Flowers		Sebata		saronfarm@ethionet.et
Roses	Selam Flowers	Etsegenet Shitaye	Sebata	0913 198440	etstgshita@yahoo.com
Roses	Joy Tech	mulugeta Meles	Debra Zyeit	0911 302804	mulugeta@joytechplc.com
Roses	Dugda floroliculture	sayalfe Adane	Debra Zyeit	0911 50 48 93	general@dugdaflora.com.et
Roses	Minaye flowers	Eyob Kabebe	Debra Zyeit	011-3728667/8/9	minayefarm@ethionet.et
Roses	Bukito Flowers	Anteneh Tesfaye	Debra Zyeit	0911 615571	
Roses	oilij	Bas Van der lee	Debra Zyeit	0911 507 307	b.vanderlee@oilijethiopia.com
Roses	Yassin Flowers	Tesfaye Gidissa	Debra zyeit	0911 89 78 56	kemevision@yahoo.com
Roses	Z. K Flowers	Abebe Mamo	Debra zyeit	0911 52 65 29	abemic/2006@yahoo.com
Roses	Friendship flowers	Edwin	Debra zyeit	(251)91 130 49 67	friendship.flowers@yahoo.com
oses	Evergreen farm	Hiwot	Debra zyeit	0912 18 5065	Hiwot.Ayaneh@yahoo.com
Roses	Rainbow colours	Tadessa Kelbessa	Debra zyeit	0911 389 729	rainfarm@yahoo.com
Roses	Sher	Ramesh Patil	Ziway	0912 131940	rnpatilpune@yahoo.com
Roses	Braam farm	Ben Braam	Ziway	0920 7462 70	braam.roses@hotmail.com
Roses	Sher- Koka farm	Alemitu Biru	Ziway	0912 09 78 24	
Roses	Ziway Roses	Ermiyas Solomon	Ziway	0921 094373	ermiasziwayroses@yahoo.com
Roses	Herbug	Hubb	Ziway		hubb@herburgroses.nil
Roses	AQ	Wim	Ziway		wimjr@aqroses.com
Hypericum	Margin par	Hayo Hamster	Holeta	251 911 505 845	marginpar@ethionet.et
Gypsophila	Tal Flowers	Mr. Uri	Sebata		uridago@walla.co.il
Hydragiums	Ewf Flowers	Humphrey	Sebata	0920 35 1931	production-manager@Ewf-flowers.com
pelargoniums	Red fox	Michel Zevenbergen	Ziway	0911 49 00 23	m.zevenberge@ethiopia.redfox.de
Hypericum	Abssinia flowers	Sendafa			ggh_link@ethionet.et
Geraniums	Ethiopia cuttings	Scott Morahan	Koka		scott.moharan@syngenta.com
Budding plants	Florensis Ethiopia	Netsanet Tadasse	Koka		flrensis@ethionet.et
Crysenthemums	Maranque	Mark Drissen	Merjetu	(251) 22 1190750,	md@maranqueplants.com
Freesia & Statice	Freesia Ethiopia	Ronald Vijvrborg	Sebata	(251) 115 156259,	freesia@ethionet.et
Hypericum	Yelcona	Andreas	Sebata	0921 146 930	Andreasndieolens@hotmail.com

Endelea Down with Downy Mildew

Those who may be new in my life should be aware that am an occasional visitor to the local Bunge. Inside Lavaeli's (Colloquial village dialect for Raphael), the owner has made it a state of the art joint which accommodates all characters. Inside the hall villagers meet and enjoy the local Muatine. Next in a veranda with grass thatched cubicles is where the elites of the village meet. Outside the veranda is a big mabati built room, and you find the football fans who make noise all through just cheering names they cannot pronounce. This is where you also meet the Mukuka chewers who are always alert. Revellers are allowed to criss cross as long as one is not nuisance lest you meet the local bouncers whose single touch will leave you half dead. In each of these areas there is a local Bunge discussing different motions of the day. Lavaeli's is so popular that any urbanite must visit it. June was a good time to visit.

Downy Mildew Attack

After greeting Kyalii, christened chairman by the young turks, I called on sikolasitika for a bottle of Sprite Madiaba. On her way back, she was joined by Endelea who carried a bouquet of roses. "Did you fight with your wife", she asked joyfully, "give her some money she is not a rabbit to eat twigs", she added as she tried to take the bouquet. "Do not touch, they are sick, replied Endelea. After greetings, he asked, "have you seen Professor?, we agreed to meet at this time." As I was deliberating internally what Mutiso (Prof.) and the said sick flowers had in common, Chairman answered, "right behind you".

Mutiso, a consulting agronomist greeted us and whispered something to Sikola, put a Kshs1,000 note on her overcoat, then she left smilingly. "What is wrong with you, Endelea?", Prof. asked. "I treat life flowers not dead. Let's take a cab to your farm then back. It will take us just few minutes. Chairman, have paid something for you and your friend, kindly do not leave I will be joining you later", he added. 'Can I join you', I asked. "Your wish", Prof answered. On our way out we were also joined by Juma. It was all joy as the village agriculturalists enjoyed themselves on who had chewed enough books.

"You remember when the weather man announced Elnino", Endelea asked. I never took him serious as they are fond of telling us to take our blankets outside in a sunny day only to run helter skelter after few hours

"Can you please tell me what it is all about?" Prof said. "I am tired of this hide-and-seek game," he feigned a slight annoyance. "You are a doctor and you came

to examine your patient. Maybe we can walk to one of the greenhouses and you see the crop", Endelea answered. "We start by taking history of the patient, so can you briefly tell about my patient", Prof said.

For the last one week, it has rained heavily and for rose growers, this is not some very good news. This can easily cause high humidity and prolonged leaf wetness. It does not need a crop pathologist like you to know free moisture is required for an infection to occur.

According to my sprayers, they have witnessed constant leaf wetness for a period of 6 hours in an area with a relatively high humidity. I believe this has given room for spores to germinate and infect the leaves. After spores' production, in the morning, temperatures rose and humidity fell so the spores were released into the air.

By the look on his face, this did not sound very good to Prof but as a doctor he tried the best to conceal his feelings. "Maybe I can see my patient know", he said. Endelea led us into the greenhouse. We were now inside the greenhouse and I could clearly see the description on the crop was correct. Prof. went over the tiny leaves sometimes with a hand lens. Looks like *Peronospora Sparsa*. he said to Endelea in hearing of all of us. "What is that", I asked anxiously. "It is downy mildew", Prof answered. "And how can you notice it" I asked.

At infection the fruiting structures of the fungus emerge from the undersides of the leaves and create the greyish – colored, downy coating as you can see. He said while showing us one of the leaves he had cut to examine. The downy mass of spores are difficult to see without a hand lens or microscope. These spores appear on the underside of leaf lesions. A side view of an infected leaf you can notice the fine whitish mycelia near the midrib of the leaf. This is the location directly under one of the purple blotches you can also see purplish red to dark brown, irregular spots on leaves. As the disease progresses, you will see angular blotches, yellow, purple to brown, to a scorch like burn and reddened areas on sepals and stem. Small spots or long purplish areas may form on canes and may kill twigs. Infection usually occurs on young plant parts but other parts are also affected. Defoliation may occur in extreme cases.

Knowing the magnitude of the matter, Endelea had gone silent biting his lower lips as he followed the conversation. Downy mildew is a fungal disease that

causes destruction of leaves, stems, and flowers. Its main species are: *Peronospora*, *Bremia*, *Plasmopara*, and *Basidiophora*. Downy mildew is a serious problem in the ornamentals. Similar environmental conditions (i.e. cool, wet weather, high humidity) favour the development of all downy mildew species.

"So what are his chances", Juma asked weighing in the conversation. Downy Mildew is high risk pathogens. It has a Short development cycle (8-10 days under optimum conditions). It carries a high potential for reproduction (high quantities of spores) for it is widely propagated by water, wind and workers. Damage is not reversible: The damaged tissues die and result in substantial losses of harvestable stems. High genetic variability: Rapid appearance of less sensitive strains.

I will not like to go deep into the physiology of the fungus. I will try to sum up some of the practical solutions which can help you minimize the loss. As a grower you must keep an alarm when you see the first signs of change in weather or when you get the first showers. You must also check your greenhouse condition and ensure you have no leakages.

Once you are sure of the first two, it is important to let your green house breath much more efficiently than any other time. Are you irrigating? Yes but you have to cut down the metre cubic as requirements are less. Ensure no excess water moisture or extra water on the beds. Are you growing in a flush system? Make sure you go one round of thinning of all unproductive stems to control heavy canopy resulting into high humidity. If you see the first showers do not wait for the symptoms to appear for they are irreversible. Straight check your spray program and go ahead with your preventive spray. Try to do with a systemic and a contact chemical group together. It is also important you make a group of varieties mainly into three; resistant, moderate and very sensitive.

Forget the other pest and disease problem for the time. This delay in your sprays will help you avoid wetting the crop. And when spraying, time your sprays in such a way that you finish by 3.00pm to give enough time to dry. And lastly ensure no stagnate water inside the greenhouse.

The trip back to Lavaeli's was doomed as no one spoke to the other. We found chairman enjoying his drink with Avakuku. He cheekily smiled on our sight, as Avakuku shouted, it is time to take roses to our wives. Sikola, keep my sprite if you incase you read this.



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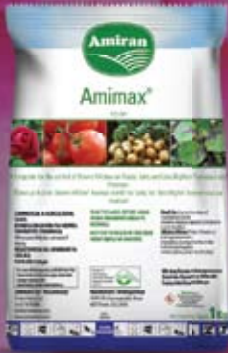
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