

May - June 2017

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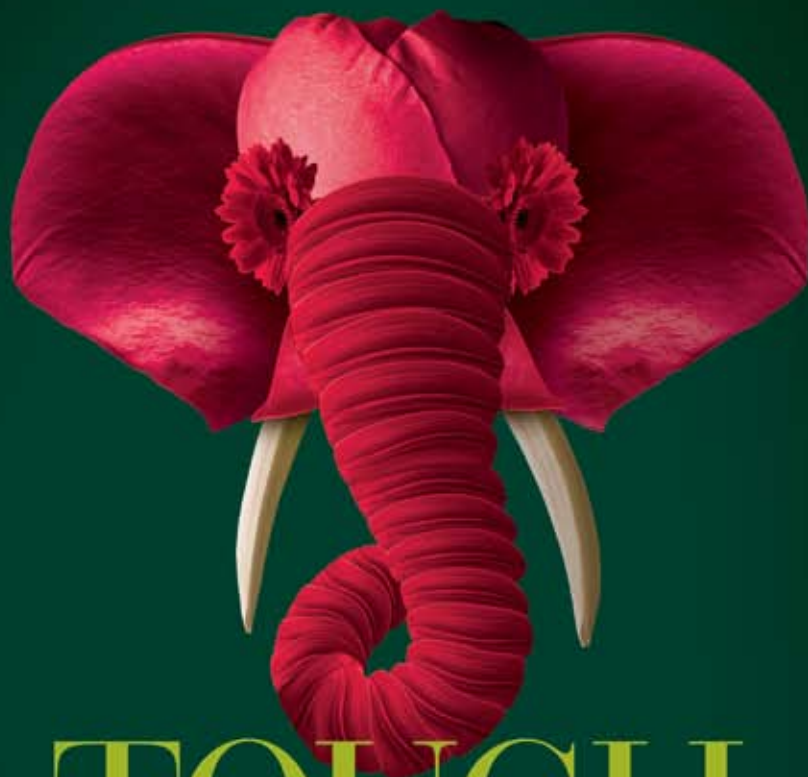
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The Leading Floriculture Magazine

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Creativity, Courage and Courage

During the past few weeks, I have traveled to Naivasha, Nanyuki, Athiriver, Nakuru and Eldoret, meeting with growers and flower business investors who are rising to meet challenges of all kinds with creativity, courage, and skill.

And I am pleased to write this editorial, because I believe that in the floriculture business, solving our greatest challenges cannot be the work for individuals or individual farms. These challenges require growers working together in alliances, partnerships, and institutions like SOCCA, KFC, KHA etc.

This year the sector is facing numerous production and marketing crises which, taken together, are on a scale not witnessed in recent times. The extent of the challenge is unprecedented, set against a backdrop of immense water challenge. Parts of Athiriver are now in serious water challenge and there is a credible risk. Drought and water challenges are pushing farms to the brink of closure.

That is why today I am calling new support combined with a call to the stakeholders to step up to ensure 2017 is not defined as a year where farms closed due to drought on a catastrophic scale. As a sector, we face a choice. Invest in better technologies or close shop.

Consider what it takes to invest in crop protection or even in greenhouse infrastructure. What percentage is water technology your accounting books? Have you harvested all the rain water from your greenhouses?



How big is your reservoir? Can your reservoir give atleast 6 months operations without rains? If any of this questions is negative, you must do something. Anyone who has invested in reverse osmosis loses around 30% as concentrate. How about investing in a technology that can atleast assure of 20% more from concentrate recycling. This is the way forward.

Masila Kanyingi

Editor



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Growers Must Ensure Timely and Accurate Detection and Intervention of Nutrient Imbalances

The Kenyan floriculture industry has in recent decades grown at an exponential rate. This growth can be characterized by an increase in number of acreage of both indoor and outdoor cut-flowers, direct foreign investment to the industry as well as increased global market share. The flower industry is faced by myriad challenges such as changing climatic conditions, changing market dynamics, pests and disease. Growers therefore need to have relevant technical knowhow to achieve sustainable production.

Working smarter, not harder, to optimize productivity, maximize crop yields with minimal production cost is important. However, this does not happen without diligent efforts to prevent and overcome possible challenges. As a flower producer, how do you exercise the latter? Yield and quality are often considered important parameters to look at in crop production. For these to ensue however, it is important to consider a holistic crop production approach that considers the planting media, irrigation/fertigation water to be used, nutrients that have been absorbed by the plant tissue, crop protection among other parameters.

From an agronomist's point of view, timely and accurate detection and intervention of nutrient imbalances can be achieved through routine soil, substrate, nutritive solutions and water analyses. The routine test results reveal nutrient credits from soil, irrigation/fertigation water and nutrient (stock) solutions. With the latter a good balance between elements in the nutrient solution can be achieved. For growers, it is worth noting that a better low EC with a good nutrient balance than a high EC with a bad nutrient balance. This is due to the existing complex relationship between elements.

Foliar (tissue) analysis is one among the crucial crop management tools, for example, sometimes media & water analysis alone might not reveal the true picture of what is happening in the root zone. Adding knowledge on nutrient concentrations and ratios of essential elements found in indicator tissue reflect the true nutritional status of the plant. This is therefore very important in developing and correcting nutrient program of a plant. During crop walks, often we

encounter poor plant vigor despite a balanced nutrient program being implemented; in this case foliar analysis is one of the tools used to establish the cause among others.

Like any other plant, flowers are susceptible to attack by pest and disease causing pathogens. Economic importance of pests and diseases ranges from yield losses, cost of control, aesthetic losses and even environmental impact in the production areas. It is important to understand and differentiate between the two types of plant diseases; those whose primary causal agents are biotic (infectious) and those that are abiotic (not infectious). This would help understand how to target the diseases. The four major groups of microbial plant pathogens (fall under biotic diseases) are fungi, bacteria, nematodes and viruses which have a destructive effect on crop production. Screening and analysis of the growing media before planting is advised given the diverse sources and handling of the materials, while in soil previous land use activities are potential sources of the pathogens. Where either of the agents is suspected, screening of the growing media (soil & substrate) and the plant material is recommended and sometimes DNA check conducted as a diagnosis and the right control measures given.

Correct identification and quarantine of potentially harmful species of nematodes is important to the success of flower production. This is mostly in soil, substrate and irrigation water. Plant-parasitic nematodes attack almost every part of the plant including; roots, stem and leaves which in turn affects quality and quantity of crop yield. Symptoms of Nematode infestation include foliar discoloration when above ground, stunted growth, yellowing of leaves and root galling. As a result, nematodes are recognized as one of the greatest threat to crop production – popularly termed as the unforeseen enemy. Worth noting, apart from being parasitic, nematodes are also vectors of plant diseases and therefore timely control of their spread can reduce economic losses significantly.

In conclusion, a timely and well informed but efficient array of the above crop management tools will guarantee the flower growers good returns.



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WHEN YOU NEED TO BE SURE



One Region; Many Facets



Mt. Kenya region is extremely scenic with the escarpment giving way to dramatic wooded gorges and tangled riverine thickets. Behind the scenery flower farming is a big business. *Maurice Koome Writes.*

Due to the diverse range of habitats, Laikipia hosts an abundance of wildlife, second only to the Masai Mara in Kenya. It has significant populations of predators and also the “big five”, with over 50% of Kenya’s Black and White Rhinos, thousands of elephants, about 25% of the world’s Grevy Zebras, and an increasing population of Wild Dogs. The focus of wildlife viewing here is in Lewa Wildlife Conservancy.

More than great Scenery

When I first met Mr. Kanyingi, Editor *Floriculture Magazine* in one of our product launches at a Nanyuki Hotel, he was full of lamentations. “Mt. Kenya is more than Snowy Mountain”, I answered. “Yes I know, it is the most accessible, and popular with Johnnies. The Timau and Nanyuki triangle is characterised by diverse landscapes, rolling hills interrupted by rocky outcrops intricately merged into beautiful scenery reminiscent of a canvas painting.

The rocky outcrops culminate into Mt Kenya, an extinct volcano, home to point Batian, the second highest peak in Africa. Mt Kenya is undisputedly the most dominant and the most beautiful feature in the region. It draws lots of visitors from all over the world, adventurous travellers with intentions of scaling its heights or hiking in

the moor lands and religious zealots who come to pray within its serene grounds.

Much of Timau all the way to the Nanyuki is intensively cultivated undulating plains. Wheat farms cover as much as the eyes can see. Equally fascinating are what appear to be lakes or ponds from afar. These are green houses for flower and horticulture farming. Flowers and horticulture produce from these farms are for export market. Also noticeable are huge flocks of sheep and herds daily cows,” he concluded. “It is more than what you are calling lakes or ponds a far, flower farming is a big business,” I told him.

One by One

In conclusion of our discussion Kanyingi challenged me for a ride round the farm to file a good article on flower farming in Mt. Kenya.

The capital city of Kenya is Nairobi, meaning a place of sweet waters; therefore it would be appropriate that we begin the journey to visit all flower farms in Mt. Kenya at the fresh water spring of KISIMA, it was very sweet. This was the start of the long journey down the mountain.

We went down the road to UHURU, where We found total freedom which

reminded him of 1963, the year Kenya attained its independence. A stone throw something was blooming, I told him it was BLOOMING OASIS. He was in love with a fresh upcoming greenhouses just adjacent and behind AAA CHUI FARM but the leopard could not feast on it. That is PENDEKERZA the third born of TAMBUZI. We discovered PJ DAVE and TAMALU on our way for a cup of tea at SUNLAND TIMAFLAIR who introduced us to their sibling, SUNLAND PROTEA. In between was FINLAY-SIRAJ whose beauty was amazing.

After a short break with no problem of course, we headed for BATIAN that was on the slopes of the mountain where we also spotted TIMAFLO and LOLOMARIK. A quick drive took us to FINLAYS-IBIS, GREENLANDS and EVEREST.

First on our way down was KONGONI, which were close to LIKI RIVER and if one went close by TURACO farm you could see EQUINOX. Long way ahead of us was COUNTRYWIDE CONNECTIONS. I thought we saw something that looked like half goat until we realized it was TAMBUZI. In the far distance was MWEIGA BLOOMS with a long meandering road all the way to T. Falls.

Understanding Mt. Kenya Region

Land: Available
Altitude: 800-2500
Rainfall: Moderate
Climate: Relatively Warm
Soil : Virgin Fertle

Current Size

Nanyuki 399ha
Timau 150ha
Summer Flowers 62ha

Expansion

2016 36ha

Varieties: Long stem big head
Market: Largely Direct
Diseases: Thrips, Powdery Mildew,
Downy Mildew, Botrytis.

Flower growing is sustainable entrepreneurship, a complex achievement of physical labour, science and business skills.



(Left): Aerial view of Equinox Flower Farm



(Right); A clear testimony of Long stems and big head at AAA Chui Farm

Fastest Growing

By the count, we had no less than 484 hectares and this prompted him to ask a few growers for an evening drink at Kongoni. Believe it or not, he agreed Mt. Kenya region is the fastest floricultural growing region one of the country. The nature of the ornamental projects varies from new projects to expansions of the old farms. Some of the new farms have already been established in other regions of Kenya.

Why Mt. Kenya?

The crown jewel of Kenya's flower growing was Naivasha, then came Athi River, Nakuru and Eldoret. Suddenly all eyes turned on Mt. Kenya which despite been older than the last, it was the pigmy of Kenya's floriculture sector. Little did



speculators know, Mt. Kenya was a sleeping lion and sooner or later, the claws will be out. For long, any discussion on flower growing in Mt. Kenya centred on Mweiga, Batian and Timaflo. The rest as they say is history.

Today, Mt. Kenya is the third largest growing area after Naivasha and Nakuru. Most of the indigenous farms are expanding wholesomely.

Big Head Long Stems

While intermediate roses are the majority in Kenyan production, T-hybrids roses are on the rise especially on altitudes of 2,200 metres or higher where the climate is suitable for these varieties. Most expansions of greenhouses is taking place on the higher altitude, Mt. Kenya became a definite choice. Growers are now moving to quality big headed and long stemmed flowers. It does not need a rocket scientist to know that, you can only achieve these in Mt. Kenya, which is 2200 metres compared to Naivasha's 1800 metres.

Availability of Land, Water and Labour

The limits regarding the expansion of the production are vast. Unlike Naivasha, Mt. Kenya is not crowded and investors can easily acquire hectares of land. Additionally, the labour force is easily available. In

Chui Farm Post Harvest Staff measuring the head size after harvest

theory, it is easier to get more workers from the rural expansions and avoid unnecessary housing of workers.

This ensures growers will not perturb the existing ecosystems. There is no need of transporting workforce as the area has a stronger workforce. One should employ from the community where the farm is situated. Water is also readily available with some getting it from rivers around, sinking bores which provide a lot of water. Collecting/ tapping rain water and storing in dams is also a major source.

Cordial relationship with the surrounding communities

Regarding the people who live around the farm, Harry of Equinox says, "Our aim is to be beneficial to them, we don't want to be predominant or disturb their social lives." Unlike other areas, they do not need to fight for the minimal resources available. "We have plenty of water," he adds. In addition, most farms repair the feeder roads in the area; provide learning materials, health care facilities, clean drinking water, tree seedlings etc. This has ensured their cordial relationship with the community.

Taking care of environment

Besides the communities, most farms don't want their farms to be a concern factor for the environment. Keeping the high trees around the fields and greenhouses is one visible way of putting this into practice.



Main Story
on training the workers who keep on moving when its season for those other subsistence crops.

Flower transportation

This is a problem right from the green houses to the grading sections when it's raining, also poor infrastructure can cause transportation from the farm difficult in some weathers. Proximity to the airport is also a major problem from the area.

Diseases

This area due to its climatic conditions experience a lot of

“Eventually we want to become carbon dioxide neutral, in which we also include the emission from the airfreight, says Mr. Attanus Mutiso of Kisima Farm. For this reason, we have not disturbed the high natural trees surrounding the farm, “We are also looking at planting more trees”, he adds.

No Spilling of waste

Also for the sake of environment most companies have series of ponds dug in the middle of the farms. “These wetlands are for cleaning waste water from the pack house and the canteen in a natural way,” Mr. Mutiso explains. “The process takes about 30 days after which the water flows into the reservoir, and later used for irrigation in the greenhouses,” he adds.

To communicate all these measures regarding social and environmental standards and also remain self critical, Mr. Mutiso points at a number of standard certification most companies have achieved both locally and internationally.

Co-ordination Between Investors

Flower growers in this region are well coordinated to an extent of forming a group called Mt.kenya flower growers. This helps them face/ solve problems together through

knowledge sharing. They also handle issues of CSR and security together. In addition, they have a strong bargaining power which has made most suppliers start seminars and trainings in the area.

CHALLENGES

Consistency of trained labour

As discussed earlier labour is readily available, however because people are doing other types of farming maintaining/ retaining them is difficult, So one will keep



diseases compared to area in low altitude. This raises the cost of production and to some who don't follow best protection measures loose production/crop.

Conclusion

With the special approach towards farming, where efficiency, reducing costs or increasing returns seem to be on the top of the target list for investors, there is one big question remaining. Will Mt. Kenya continue to be the choice of investment for most flower growers?

“Yes”, says Mr. Kruger the General Manager, Equinox. “Otherwise, the influx would have stopped already. We are providing the best business atmosphere for flower growers. The costs are very low, we have plenty of resources, there is labour availability and the infrastructure is improving. Moreover, the quality is the best. This obviously influences the profits. Getting the highest profit and enjoying what they do, is the goal of every investor, what will stop them from Mt. Kenya?” he asks.

Maurice Koome is the Bayer Cropscience Floriculture Technical Sales Representative Mt. Kenya region.



Long sturdy stems of easily noticeable inside one of the greenhouses

The Success Story of AAA Roses Premium Kenyan Roses

Bellissima's exclusive assortment of roses have large flower-heads of average 6cm and long sturdy stems of average 80cm – 100cm.

Mt Kenya, Africa's second highest peak, forms an imposing background while majestically staring down at the idyllic expanse of Timau near Nanyuki in Kenya. It is amidst this picturesque setting that Chui Farm, the newest venture by AAA Growers is located. Chui Farm produces some of the most exclusive and exceptional Kenyan roses under the brand name Bellissima; which fittingly translates to "Gorgeous Lady" in Italian.

Bellissima premium Kenyan roses are

unpacked and sold through auction in Europe by Flower Optimal Connection and direct sales to other parts of the world. Flower Optimal has many years experience offering strategic solutions and efficient unpacking services to growers from Kenya, Ethiopia, Israel and other countries. The farm currently has 20 hectares under production with a further 10 hectare expansion under development and projected to be operational before the close of 2017.

We had the pleasure of visiting this beautiful farm with an aim to find out what is the secret to their success. When we arrived at the Chui Farm, we were welcomed by the General Manager, Shailesh Rai, who took us on a tour around the farm and sat down with us for a chat.

Secrets To Good Production

According to Shailesh, at an astonishing altitude of 2,500m above sea level, Bellissima's exclusive assortment of roses have large flower-heads of average 6cm



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Numerous displays showing Large flower-heads production at AAA Roses, Chui Farm

and long sturdy stems of average 80cm – 100cm. This impressive high altitude plays a major role in their success and gives them an added advantage in producing top quality roses. At Bellissima the constant pursuit for perfection has seen the AAA farm develop an efficient system of controls from pre-production all through to post-production. The systems ensure that an optimal quality of each single stem is achieved and maintained. “Harvesting”, the GM adds “is done once or twice daily.”

“To ensure that our roses not only have good vase-life and our roses are treated in chilled water after harvest; we use proper top range cooling facilities; observe the right cut-stages for all the roses; and separate the flowers intricately according to age, size and such aspects,” says Shailesh.

Personnel Motivation

We went further to ask the GM, Shailesh Rai

how Bellissima motivates its work force. He said that the farm, whose parent company



Reservoir with an impressive capacity: This consists of rainwater collected from the Greenhouses.

Corporate Social Responsibility &

Celtic Cooling was established in 1997 by owner Joost van Klink, an engineer by education. Over the past 20 years, the company has developed into a professional refrigeration business with an excellent market position and reputation in the cooling and freezing sector. We followed our customers abroad, including Kenya. Presently, we work in Kenya and Tanzania for a wide range of producers of flowers and cuttings, fruits, herbs, seeds and vegetables.

RECENT PROJECTS

For a multinational in seeds we are currently realising a room for vegetable seeds, building upon experience gained in Tanzania with similar seeds and germination rooms for various key players in the international seeds business.

In 2016, Celtic Cooling delivered several cooling rooms for beans and herbs to a major grower, including conditioned processing areas. A flower bulb company active in East Africa acquired three drying rooms for Zantedeschia tubers from us in 2014.



A fruit company in Tanzania took delivery of specialized pre-cooling and storage rooms for their avocado production. In the flower sector we have also built cooling solutions for cuttings and other starting material for various clients.

OUR VISION

The best cooling or freezing installation is one that does precisely what it is designed for: create the perfect environment for your product. That is our goal with each project. We are always up-to-date on the latest product and process innovations and technologies, as well as the relevant international legislation, rules and regulations. We produce energy-efficient, environment-friendly and sustainable installations.

ABOUT CELTIC COOLING

Celtic Cooling is a trendsetter in cooling and freezing solutions for international clients. Headquartered in the Netherlands and with offices in Ghana, Kenya, Ethiopia, Kazakhstan, Russia and Dubai, the company has gained worldwide experience in designing, delivering, installing and servicing tailor-made company-specific and product-specific cooling and freezing installations, air conditioning systems and turn-key solutions for flowers, fruits, herbs, seeds, vegetables and other purposes. Celtic Cooling works for clients from various segments of the corporate sector, both abroad and in the Netherlands. The solid foundation of our success is a multinational team of around 75 experienced, highly-trained and passionate employees.

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*wishes AAA Roses
a prosperous future in Kenya*

Celtic Kenya (since 1999): working towards 20 years
of innovative cooling and freezing solutions in Kenya



*(Left) Mr. Shailesh Rai
(Right) Mr. Attanus Mutiso
Part of the Chui Farm Top
Management Team who
Oversee the day to day
running of the farm.*



AAA Growers, is certified by Fairtrade Labeling Organization (FLO). Bellissima provides training for their staff in areas that include computer courses, automobile driving and mechanics and nursing.

“In conjunction with other partners, we donate a percentage of our revenue to a recently initiated Corporate Social Responsibility (CSR) project where farm workers and the community will benefit.

In this initiative the workers themselves get to choose which charity projects to be carried out within the community. Here at Chui Farm we currently have 350 workers, and in a move to empower women in the surrounding community, a good majority of our workers are ladies.” he adds.

Water Management

Situated in the mountains, the climate gives Chui Farm sufficient quality water, adding

to the many reason Bellissima is able to produce premium Kenyan roses throughout the year. The flower farm is served by a reservoir with an impressive capacity of 130,000m³; this consists of rainwater collected from the Greenhouses. This is supplemented by two boreholes which ensure the farm has constant supply of fresh spring water. According to the General Manager, the water reservoir is capable of supplying adequate water for up to 6 months even in the absence of sufficient rain.

Premium Roses

We asked Shailesh which are some of their winner varieties include and with a proud look on his face, he told us it had to be Ever Red – Bellissima, Alba, Confidential, Moody Blues, Boulevard and Ever Red – Bellissima is a super premium variety with a beautiful velvety red hue, excellent stem-length and very good head size. The Bellissima range has 24 rose varieties in assorted colors categorized under Gold and Gold Plus.



Aerial View Of The Busy Packhouse

Article Courtesy of F. Optimal Connection. To read original article visit: www.optimal-connection.com

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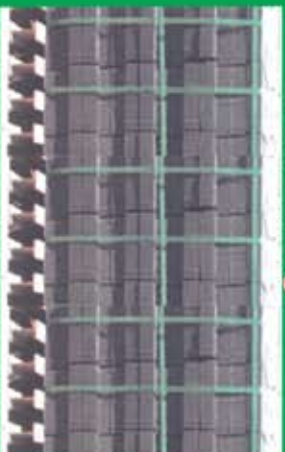
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IFTEX:

Ensuring Market Consolidation and Diversity

For the sixth year in a row, Kenya is set to host the International Flower Trade Expo (IFTEX), slated for June 7-9 at the Oshwal Centre, Parklands, Nairobi.

Currently, IFTEX is at par with other important flower exhibitions organized by HPP which include World Floral Expo (USA), Agriflor (Quito, Ecuador), and the International Floriculture Trade Fair (Vijfhuizen, Holland), all that are key activities in the flower industry calendar. Since IFTEX opened its doors here in 2012, there has been a steady pattern of target visitors. Kenya's flowers are a sensation in the US going by the interest the Kenya pavilion attracted during the World Floral Expo in Las Vegas (US) held early this year. This year's show comes amidst renewed focus in the country following the classification of JKIA to Category A status enabling direct flights to the US from Nairobi. The two make US the main target this year.

It has been costly and lengthy to ship the country's flowers to the world's biggest market after the EU. "Owing to the availability of the flights, we expect more American buyers in Nairobi next month going by confirmed visits and increasing inquiries", says Dick Van Raamsdonk. Nobody can deny the fact that in this year's show the catchphrase will be, "Buyers from America".

The US visitors will be neck to neck with China going by what happened early this year in Guangzhou. The beauty of Kenyan flowers was visible at the recent China Flower Trade Fair in Guangzhou. Visitors came from all corners of the vast continent some purposely looking for the Kenyan pavilion, says Mr. Raamsdonk.

In China, visitors came from all the corners of the vast continent some purposely looking for the Kenya pavilion where a remarkable display resulted in buyers expressing interest to attend the Kenya flower show (IFTEX) to see more varieties and colour. For this reason we also expect more buyers from Asia, the country's newest and promising market frontier for flowers.

Industry Focus

The Kenya Flower Council (KFC) projects that the freight cost for flower exports to the US will halve with direct flights between the two countries. Cargo flights are currently charging

(Left) Exhibitors follow 2017 IFTEX the opening speech by Dr. Richard Lesiyampe

Sh400 (\$4) per kilogramme of flowers shipped to America via Amsterdam or South Africa. KFC says the charges are high because of the transit stopover.

“It is going to be cheaper for us to export our flowers to the US once direct flights to America start, this will be a big boost to our growers who will see their earnings improve,” said chief executive officer Jane Ngige.

The council is gathering market intelligence on the status of the American market, entry points and investment opportunities. Ms Ngige said the US market would raise competition for Kenyan flowers globally as currently nearly all the produce from the country is sold in Europe.

“Exports to the US implies we will have diversified our markets and we will no longer have to rely on Europe as our major buyer; this will make our produce competitive because of an alternative

market,” she said.

She said with the flights, more American buyers are expected in Nairobi during the sixth edition of the International Flower Trade Expo (IFTEx).

Government Support

From farm to market, the Kenya government supports the growers. Our supply chain partnership is an integrated approach to ensure safe and sustainable trade throughout the markets. This was said by Dr. Isaac Macharia, the Phytosanitary Services General Manager at KEPHIS.

“KEPHIS will facilitate the export of flowers to the US, through her regulatory role and ensure shipping requirements for exporting to the United States of America are well understood as the trade between the two countries increases owing to the direct flights”, he said.

Currently, Kenya exports flowers such as

roses and summer flowers, and propagation materials (pelargoniums). With the approval, it is expected more players will venture into the market and more produce will be exported in the future.

For the new players, US is just a flower export market like any other. Exports of plants, plant products and regulated articles require phytosanitary certificates issued by the KEPHIS. This is a document that states to the importing country that the produce is free of pests and diseases and meets the importing requirements of the particular country. Plant Import Permits (PIPs) are also required so traders have to know the requirements of the PIP.

This may not be difficult to attain as KEPHIS has a long working relationship with USDA-APHIS (Animal and Plant Health Inspection Service), The NPPO of the USA which ensures the free flow of agricultural trade by overseas markets that meet the importing countries entry requirements.



PS Dr. Richard Lesiyampe visit KEPHIS Stand



Richard Fox addressing 2016 opening ceremony



Stakeholders catching up Before Opening

Cover Story
Mr. Karongo said the directory will actively participate in the Horticulture Competent Authority Structure (HCAS). This brings together the parent ministry, regulatory bodies and exporter organizations. They will also bring on board other players engaged in the export business such as the consultants and clearing agents. “We will also Collect and disseminate export data to keep our exporters abreast with the market”, he said.

Challenges

Despite the reported impressive growth in the horticulture sub-sector and the significant contribution made by floriculture in this growth, Mr. Karongo acknowledged growers face numerous challenges. He pointed out that, the directorate was engaging relevant government departments to address the high freight charges, emerging pests and diseases, Poor and inadequate post- harvest handling infrastructure, high initial investment costs, fluctuation in exchange rate and high costs of inputs. Well addressed, Kenyan growers will be competitive to the US market which has been colonized by South American growers.

Adding, “Kenyan growers have addressed social issues related to remuneration of workers and safety in their operations and the environmental concerns raised by some NGOs fairly enough”. He also noted that growers have been able to handle the dynamic market standards, frequent changes in products development and competition from other flower producing countries targeting the same market. This makes them competitive to any emerging market.

To consolidate and enhance the growth realized in the sub-sector more needs to be done alongside research on new varieties and technologies (i.e. water efficient and environment friendly), adjust to digital methods of marketing and branding, increase participation in other emerging markets (i.e. far east, Japan and Korea), continuous capacity enhancement in collaboration with growers and other stakeholders, continued advocacy for improved infrastructure in flower producing areas and strengthen regulation of industry players

Repeat Buyers

Other than the two emerging markets, IFTEX was also consolidating its traditional buyers from Europe and Middle East. “That buyers keep coming year after year is an indication the show meets their expectations and ultimately”, said Mr. Raamsdonk. On the other hand, growers have always put their best mix on show creating a sea of flowers not seen anywhere else under one roof. IFTEX is therefore an international show by any standards and has become a “must do” in the floriculture activity calendar.

Roses and summer flowers are approved by APHIS hence no pest risk analysis is required.

PRA is the process of evaluating the potential risk of a plant or plant product to introduce pest and disease. It includes establishing the occurrence, introduction potential, establishment potential and economic impact. It establishes whether pest should be regulated, and the strength of any phytosanitary measures to be taken against.

Speaking in the same forum, Mr. Samuel Karongo of Horticultural Crops Directorate said the government was out to support the growers through more international trade fairs that will bring on board growers and buyers from the two countries.

Mr. Karongo said that they will collaborate with all players to ensure capacity building on production and market requirement such as KS1758. The directorate will Partner with development partners in enhancement of market access i.e. working with USAID in the development of the National Traceability System.

“We will strengthen engagement with stakeholders through regular consultative forums, work with research institutions in addressing technical challenges in the sub-sector and comprehensively vet exporters to ensure no few bad eggs spoil the broth”, he added.



PS Dr. Lesiyampe discussing with an Exhibitor

Although Kenya actively participates in other international flower shows globally, IFTEX offers the largest number of growers sitting together showcasing the unique characteristics of flowers from the country's various growing regions. Big heads, small heads, short stems, long stems as well as different varieties coming from the same country complete the picture of market diversity.

Kenya's position astride the Equator and varying climatic conditions enables the country to grow flowers that compete with those from the other four countries in the world in the same horizon making the nations the top flower producing spots. These are Kenya, Ethiopia, Ecuador and Colombia. Kenya has a mix of low and high lands enabling production of the same variety in different region giving different characteristics for the diverse markets. For instance, the same variety grown in Naivasha, Thika and Nanyuki gives three different shades of the same flower going into different markets, and this is unique to Kenya.

This year, over 5,000 visitors and 225 exhibitors (growers, breeders, consolidators, products and service providers) are expected to participate in the expo, reaffirming the great importance of this annually held international flower trade exhibition. Last year over 1,500

key qualified trade visitors from over 28 countries visited the show, a big number for buyers.

The show has grown into a top Kenyan brand, strengthening the country's position as a leader in global markets, while enhancing the image of Nairobi as the home from where 40 per cent of the flowers sold in Europe originate. IFTEX has come at the right time for the Kenya flower industry that is now in the process of market consolidation and retention by positioning its flowers as responsibly grown, and that picture can only be seen at a show of an international magnitude at home.



PS Dr. Lesiyampe signs visitors book at Agrichem Africa Ltd Stand.

A Glance at Kenya's Horticultural sector

The horticulture sub-sector has registered a sustained growth of between 10 and 20% over the last 10 years, with a growth rate of 12% realized in 2016 despite many other sectors registering negative growth. The sub sector therefore contributes immensely to the economic growth of our country.

The sub-sector provides direct and indirect employment to over 7 Million Kenyans and contributes to 17% of the GDP. Floriculture contributes between 65-70% of the total horticulture exports i.e in 2014 total exports by value was KShs 84 billion with flowers contributing KShs. 59.89 billion (71.2%). The contribution was 69% and 70% for the years 2015 and 2016 respectively.

Kenya has continued to experienced growth in its share of the global Flower trade in the last decade. Statistics show that Kenya is contributing over 35% of the world flower trade and continues to compete with countries such as Ecuador, Colombia and Ethiopia in the world flower business. In Africa, Kenya is the leading Flower exporter. Indeed in the year 2016, Kenya exported flowers worth Kshs 71 billion representing 70% of the total horticulture exports which stood at (Kshs 101 Billion).

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Towards

A seamless Kenya-Netherlands flower chain

KLM, Royal FloraHolland, and Amsterdam Airport Schiphol are reinforcing the air bridge between Kenya and the Netherlands, joining forces to ensure that the Aalsmeer-Schiphol region remains the world's top flower-trading centre.

The goal of the Holland Flower Alliance (HFA) is to realise a seamless chain that will ensure the highest product quality and fastest transport times in the most cost-efficient way. The Alliance is currently focusing on Schiphol's most significant flower-importing country: Kenya.

Marcel Claessen, Chief Operating Officer at Royal FloraHolland, recognises the vital importance of a seamless flower chain.

"Our business is becoming increasingly global. Products are travelling ever-greater distances to arrive in the Netherlands, with the distribution areas becoming increasingly diffuse. Europe and its neighbouring countries used to be our primary market, but now markets further afield are growing in importance.

"If we want to ensure that Dutch growers and export companies maintain their leading role in the future, we will need to participate in the right initiatives – such as this cooperation."

Extending vase life

The EVP of KLM Cargo, Marcel de Nooijer, explains: "The aspect known as 'vase

life' is crucial to the rose trade. From the moment the product begins its journey to the customer, time and temperature are the components that will determine the product's value. The more effectively organised the chain is, the longer the vase life will be – and the higher the value.' To achieve this goal, the three partners are focusing on two key areas for improvement:

Defining and setting up the ideal chain. The various logistical links must flow seamlessly into one another. The HFA aims to define the ideal chain, from the grower in Kenya to the flower auction in Aalsmeer. In particular, measures to improve the cool chain will be examined, along with ways to standardise flower packaging.





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IT integration via an independent data platform to which all players in the chain are connected. Through this platform, the parties can keep one another informed and access information. Everyone will have insight into the status of each shipment. This will allow all links in the chain to arrange their logistics processes more effectively, while also reducing waiting times.

Real-time monitoring

Supporting the efforts is FlowerWatch, working from its offices in the Netherlands, Kenya, and Japan to take the lead in quality control. The chains are monitored using temperature data loggers, as it is important to be able to analyse the chain retrospectively.

When you have real-time certainty that the cooling units throughout the entire chain are working properly, it means you can be sure that partners are living up to their promises – each and every day.

Together, three businesses with Dutch roots – Bexter in the Netherlands and Upande, and FlowerWatch in Kenya – have rolled out a real-time monitoring network that offers insight into the performance of the cool chain at all times.

Toon de Jong, co-owner of Bexter, designed the online platform with his team and is currently expanding the network at the European end of the chain.

Mark de Blois, CEO of Upande, supplies and maintains the hardware and works on new sensors.

Jeroen van der Hulst from FlowerWatch works to achieve optimal performance in the flower chains.

Preparation phase completed

Although the development of new technology offers huge opportunity in a

rapidly-growing economy such as Kenya's, it also provides a number of challenges.

Now that the preparation phase has been completed, the three partners are looking to the future with confidence. Mark de Blois, CEO of Upande in Kenya says, "Today, thanks to the online integration of countless sensors, FlowerWatch is in a position to allow its customers to take decisions based on real-time data. In terms of the potential of these developments, what we're seeing now is just the tip of the iceberg."



Jeroen van der Hulst predicts, "In just fifteen years, the flower industry has become globalised. While the Netherlands is still the physical hub of the trade, the networks outside of the Netherlands are growing rapidly. This is our chance to help the business mature – it's no longer about being the first one to tap a new market or introduce a new cultivar. Today, it's about making our chains operate more efficiently than others."

Flower transport by sea

Each day, millions of cut flowers – mostly roses from Kenya – are transported to the Netherlands by air. Travel by sea freight would reduce the CO² footprint of each rose considerably, and it would be cheaper as well. Anton Brill (VGB) explains the drawback, "The challenge is keeping the flowers fresh for three weeks during transport, so that the vase life on the consumer side doesn't suffer."

In March, research partners VGB and Wageningen UR wrapped up the GreenCHAINge project. During the project, four sea freight journeys were carried out and a new sea freight protocol for roses was developed. The primary focus was on improvements that could lead to a decrease in post-harvest losses.

This partnership between commercial parties and research centres Royal FloraHolland, Wageningen UR, Flora Life, Chrysal, and FlowerWatch was unique and allowed for the development and testing of a comprehensive protocol for the entire sector.

Feasible protocol

The protocol is based on two principles: high quality and feasibility.

By ensuring the correct preparation and a proper cool chain at the start of transport, the quality of the roses is suitable for ocean freight.

The protocol has been designed in such a way that rose growers can comply with it without the help of an adviser.

An ocean freight box with standard dimensions has been developed in addition to the protocol. This standard freight box has been designed for optimal loading into a 40-foot reefer container. A matrix for the loading ratio has also been established, so that the trader knows exactly how many roses should go in a box for ideal loading. The effects of ventilation holes, bags and liners have also been tested in order to find the right balance in the microclimate to prevent the fungal infection *Botrytis cinerea* whilst also avoiding dehydration of the roses.

The last container was exposed to freezing temperatures, meaning that these are all the clear conclusions on what constitutes 'ideal packaging' we have for now.

Source: Schiphol Cargo



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Joseph Murungi



“Now is the time to make a difference in controlling long term costs by being proactive in resistance management

Resistance Management: A Grower’s Choice

Growing crops today is a world away from cultural practices 30 years ago. Transgenic plants, Integrated Pest Management techniques and sophisticated crop protection brands all are tools accessible to a grower. With these new tools, resistance management tactics are becoming numerous and effective.

Now is the time to make a difference in controlling long term costs by being proactive and aggressive with resistance management before it becomes serious and little can be done.

But even with these advances in technology, there is still a viable concern of pests developing resistance to the tools growers use. Much of this concern stems from the lack of education regarding insect management and the critical role a grower plays in the fight against resistance.

An organization of crop protection companies is leading the charge in managing insect resistance. The Insecticide Resistance Action Committee (IRAC) is intensifying efforts with research, fieldwork, consultation and educational programs to aid growers confronted with resistance issues.

Resistance Management

Catastrophic failures like those described above are not common. However, every major crop — cotton, rice, corn, fruits, vegetables and ornamentals — has one or more resistant pests.

In total, more than 500 species of insects and other arthropods have already shown resistance to at least one class of insecticides. Once a crop protection product is rendered ineffective by resistance, it could very well be lost from the toolbox forever.

The price of insecticide resistance in lost yields and higher insect control costs is staggering — in some years more than \$1 billion in cotton for the budworm/bollworm complex alone.

Prevention is the best strategy, but if resistance is suspected, first eliminate other possible causes. In many instances, lack of control can be attributed to application error, equipment failure or less-than-optimal environmental conditions. In the event of a control failure due to resistance, don’t respray with an insecticide of the same chemical class. IRAC recommends several resistance management strategies for transgenic crops as well as traditional pesticides, including:

- Monitoring fields through scouting to determine pest populations and trends, as well as presence of beneficial insects.
- Using insecticides only if target pests are numerous enough to cause economic losses greater than the cost of the materials plus application; and
- Taking an integrated approach to pest management, combining as many different control mechanisms as possible, such as protection of beneficials, rotation of insecticide classes, use of transgenic crop varieties, and crop rotation.

The mission of IRAC is to help growers maintain the efficacy of crop protection products. Implementation of comprehensive strategies include:

- Identifying the scope of resistance problems through surveys;
- Developing methods for detecting and monitoring resistance;
- Discovering how resistance occurs;
- Devising programs to counter the loss of pest susceptibility;
- Developing susceptibility management strategies that incorporate all practical pest management methods into a crop management program;
- Disseminating information on management strategies; and
- Interacting with regulatory authorities responsible for insecticide registration.

The Insecticide Resistance Action Committee was formed in 1984 to provide a coordinated crop protection industry response to the global development of resistance in insect and mite pests. IRAC now is concentrating its resources on local implementation of resistance management strategies by growers; establishing the relationship between monitoring data and level of control in the field; and educating all involved in crop protection.

Mr. Joseph Murungi, a crop pathologist is a crop protection consultant

By Joseph Muita



Every flower stem counts hence successful farmers are smart to maximize yields through crop protection. Do you?

Botrytis And Downy Mildew Malady: Liberate Your Rose Crop

Downy Mildew is one of the major fungal challenges to the floriculture industry whose control budget is about 20% of the total pesticide value. It occurs rapidly and the effect on the quality of roses is irreversible and the loss is irreparable.

Once it takes hold, it will defoliate a plant very rapidly. While total defoliation does not immediately kill a plant as would, say, an accidental application of an herbicide, its loss of photosynthesizing ability stresses and weakens the plant to a degree that it becomes totally unproductive, a situation from which it may never recover. Downy is extremely contagious and will spread throughout your rose garden quickly if left untreated, laying waste to all the plants within a very short time.

Botrytis is also an important disease commonly known as Grey Mold which changes during its life cycle from being saprophytic to parasitic and acknowledged for considerably reducing marketable quality of roses. Botrytis has high potential of developing resistance as a result of indecorous usage of pesticides.

Fungicides for Control

Choosing the most effective fungicides to prevent or eradicate rose downy mildew and botrytis can be tough and it's for this reason that BASF introduced into the market two innovative fungicides; Orvego® for controlling Downy Mildew as well as Bellis® for the control of Botrytis.

Orvego® is an innovative fungicide of a new chemical class that works effectively against downy mildew and late blight in a broad range of specialty crops, (also against pathogens with resistances).

Orvego® combines the well-known active ingredient dimethomorph with the new fungicide Initium® to form a premium preventive shield. Crops are effectively protected, stay healthy longer and are able to develop to their full potential.

Orvego® also has an excellent regulatory profile, meeting not only your own needs but those of consumers and the environment.

It is characterized by four benefits to farmers:

- 1) Excellent and highly active control of Oomycete (also called Peronosporomycete) diseases in many crops with excellent selectivity
- 2) Innovative complex III inhibitor of a new chemical class and as such a new tool for resistance management
- 3) Overall excellent regulatory profile with very favorable toxicological and ecotoxicological as well as environmental fate properties, resulting in excellent consumer and operator safety assessments
- 4) Orvego® provides premium preventive action-provides excellent disease control even when applied shortly before it rains

Bellis® is a superior multipurpose fungicide for Botrytis having TWO unique active ingredients hence no cross resistance. Both a.i have local systemic and translaminar activity with limited bipetal translocation.

This gives the product a high value of lipophilicity and water solubility, enhancing the redistribution of the active ingredients over the whole leaf surface ensuring good coverage

GROWER BENEFITS

- Strong acropetal translocation which allows for full coating of the plant tissue and ensures maximum protection against pathogens
- Controls an extraordinary large number of diseases, providing you with security even if you are not aware of disease
- Bellis® is an IPM compatible product

Joseph Muita is the Technical Sales Representative-Flowers BASF

A close-up photograph of a woman's face, focusing on her eyes and lips. She has red lipstick on. A large red rose is in the foreground, partially obscuring her mouth. The background is a soft, out-of-focus light blue.

Orvego®

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- Powered by the new active Initium®; Orvego® ensures that your flowers are free from Downy mildew, a guarantee for top quality.
- Has excellent overall regulatory profile yielding in a favorable consumer and user safety situation.
- Is a convenient tool for resistance management due to its unique mode of action.

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Bellis® is a premium fungicide for the control of Botrytis in ornamentals.

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- Gives additional benefit of controlling downy mildew-
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- Optimizes growth performance of your flowers assuring of premium quality

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- Highly compatible with biological controls.
- Quick knockdown and long lasting activity against spider mites at any stage of development.
- Ideal complement to anti-resistance programs.
- Safe solution for crops and spray operators.

Integrated Pest
Management
(IPM) programs.
Yes - safe to most
beneficial insects,
including predatory
mites.

Crop safety.

Yes - Excellent!

Fast knockdown.

Yes - in targeted mites.

All life stages
of mites.

Yes - highly effective
against eggs, nymphs
and adult stages.

Long lasting
activity.

Yes - for more
than 30 days in
greenhouses.

No Cross-resistance.

Yes - to other commonly
used miticides.

Arima: The New Tough But Friendly Miticide

Ornamental crop production is a specialized business centred on the beauty of flowers and attention to detail to deliver perfect results. Syngenta has reinforced its commitment to the global ornamentals business to support sustainable businesses through a close collaboration with ornamental growers. Increasingly, Syngenta is providing the ornamentals growers with the ability to introduce integrated pest management in their crop and address the need of their customers to meet leading certifications schemes.

The registration of Arima opens the door to a unique miticide that will improve Syngenta miticide offer to ornamental growers in both Kenya and Ethiopia. Cyenopyrafen, the active ingredient in Arima® miticide, is classified in IRAC Group 25 and belongs to the beta-ketonitrile class of chemistry. It is highly effective against Tetranychid mites (spider mites), *Tetranychus urticae* and *T. evansi* at a low use rate of 600ml/ha. The product safeguards against crop damage by controlling spider mites during all life stages – eggs, nymphs and adults in roses, carnations and other ornamentals grown in greenhouses or outdoors when used as foliar applications. Arima has a favourable toxicological profile and is safe to several non-target and beneficial organisms such as *Phytoseiulus persimilis* and *Amblyseius* spp.

"Syngenta is passionately committed to partnering with growers and industry partners to develop innovative solutions that result in more marketable produce. With Arima, growers have an economical

solution that will enhance quality and yield of ornamental plants for demanding markets" These were remarks made by Mr Victor Juma, Lawn and Garden Business Manager at Syngenta during an interview with this magazine. He further added that Arima is highly compatible with biological controls and has a proven high efficacy against spider mites due to its quick knockdown and long lasting activity.

In a discussion with Mr Charles Njuki, a farm manager at Kingfisher farm, Naivasha, prior to the launch of Arima, he recalled that several growers have adopted the use of biological control agents for spider mites control and there is an increasing need to have several compatible options to complement the current solutions. His colleague, Mr Peter Mwangi, a farm manager at Flamingo Farm, Naivasha, also reiterated that newer pesticide chemistries give growers an advantage in terms of rotation and resistance management. "The market is ready for Arima. It seems there is a renewed focus by Syngenta to fill in the gap we currently have for miticides. Newer and innovative solutions will definitely help us have better mites control and a good resistance management programs. Additionally, the crop safety aspect of Arima makes it a valuable tool to guarantee high quality roses", these were remarks made by Mr. Attanus Mutiso, production manager at AAA Growers, Chui farm, during the successful launch of Arima in Nanyuki.

More than 25 growers drawn from different agro-ecological zones participated in Arima demonstration trials to test the product attributes first hand prior to product launch. The comprehensive Trial results were presented by Ms Margaret Njambi, Technical Manager, Lawn and Garden East Africa. The trial results indicated consistent results across all regions and farms, with a good knockdown effect observed within 6 hours after application, long residual activity of more than 35 days, excellent crop safety, and compatibility with several biological control agents. In his speech, Mr Marcel Bredeveld, Syngenta Lawn and Garden Development Team Lead for Europe, Africa and Middle East, advised growers to follow good application techniques to maximize the product activity and also emphasised on the need to rotate Arima with miticides from different modes of action to reduce the development of resistance.

The well-organized launch events in Nanyuki, Nairobi, Naivasha, Nakuru and Eldoret were well attended by growers and other industry stakeholders. While giving a vote of thanks on behalf of growers who attended the product launch in Nakuru, Mr Andrew Wambua, General Manager, Molo River Roses, asked growers, "What exactly does a grower need if not better quality and yield?" He further added, "If a grower has a product like Arima which guarantees a longer residual effect of more than 35 days, then this directly translates into improved profitability for growers due to additional savings from chemical sprays and other costs related to chemical applications".



A Grower registering for the launch



Lawns and Gardens Business Manager Mr. Victor Juma doing his presentation during the Launch.



Victor and Walter share a light moment.



Both growers and distributors were well represented.



Officially Launched.



Managing Director Syngenta EA Ltd Mr. Walter Njenga presenting Arima to a potential customer during the launch



From Left: Arima poster, Mr. Musungu (Syngenta-Mt Kenya), Mr. Marcel (Syngenta HQs) Mr. Tubei (Sian Masai), Ms. Margaret (Syngenta-Technical) and Mr. Onyango (Syngenta-Key Accounts) were all active participants.

Humidity and greenhouse climate control

First it must be specified that when one refers to humidity, the kind of humidity that is important for greenhouse growers is relative humidity.

Relative humidity (RH) is expressed as a percentage of the amount of water vapor present in the atmosphere at a certain temperature, in regard to the amount of moisture the air can optimally hold at that temperature. In other words, relative humidity is the amount of water vapor in the air. Humidity should be managed according to the needs of different crops.

As a rule, when air warms, it expands and has the ability to hold more vapor. As air cools, it contracts, allowing the vapor to fall as water.

VPD

Vapor Pressure Deficit is the measured difference between the amount of moisture in the air and how much moisture the air has the potential to hold when saturated. In other words, for the plant, VPD is the shortage or deficit of vapor pressure in the air as compared to the vapor pressure in the leaf. When there is an imbalance of vapor pressure between the atmosphere and the plant, growth and development are affected negatively.

Low VPD leads to low transpiration, restricting the transport of minerals as they move through the plant's xylem. If Vapor Pressure Deficit is seriously lacking, plants lose the ability to transpire, and the pressure usually released by transpiration builds up inside the plant. Combined with a wet root zone, this can result in guttation, which is when plant pores secrete water.

Low VPD or high RH can cause mineral deficiencies, disease, guttation and soft growth. While high VPD and low RH can result in leaf roll, stunted plants, wilting or crispy leaves.

Transpiration

Transpiration is when the leaves of a plant start to accumulate moisture on the surface. While around 90% of a plant's water uptake is transpired leaving only 10% of water uptake for growth. It is therefore very important to help create favorable humidity conditions. When transpiration or "sweating" occurs, the plant's

stomata open and release water vapor. To conserve moisture, the stomata close. Stomata open wider with a VPD decrease and high RH, and close as VPD increases and RH lowers. The amount of moisture released by a plant is somewhat self-regulated by the opening and closing of the stomata. Nevertheless, issues can arise with too much or too little humidity.

In high humidity atmospheres, the plant's ability to cool itself or transport nutrients and minerals can be limited. Further, moist environments can be a breeding ground for powdery mildew or mold, which gone unnoticed can spread throughout, rotting the fruit and destroying produce. Many plant diseases require moisture on leaves to initiate an infection. For farmers, the fear of mildew, mold, virus and disease should be a primary concern. Controlling the humidity can greatly minimize the risk of these issues arising. High humidity can be very beneficial during certain growing periods of the plant's life cycle and disastrous at others.

Temperature

Temperature and humidity are correlative. As the temperature of the air increases, the relative humidity decreases even though the amount of moisture remains constant. This is because the water-holding capacity of the air doubles with each 20 degree Fahrenheit increase in temperature. So, if your temperature increases from 60 degrees to 80 degrees it can hold twice the moisture at 80 degrees than it had at 60 degrees.

Leaf temperature is a way to measure VPD. Measure the temperature within the plant's leaf canopy to get a closer reading of the leaf temperature. The rate of photosynthesis is affected by leaf temperature. The leaf temperature should remain above the ambient air dew point to inhibit condensation from forming on the surface.

Downfall of Overhead Water Fall

Water vapor accumulates on the foliage of plants, so try to refrain from watering before closing the greenhouse at night, as humidity is higher during the cooler parts of the day or nighttime.

Avoid overhead watering methods like sprinklers and consider a drip tape system to reduce

surface moisture on plant leaves. Space your plants appropriately to circumvent the risk of overlapping canopies, which create a microclimate that is different to the rest of a plant. Water in the mornings, so there is plenty of time before evening falls for additional moisture in the greenhouse to escape.

As a rule, remember that high humidity and low temperature promotes mold, low humidity and high temperature may stretch the growth or slow down growth. Keep in mind soggy soil raises humidity, dehumidifiers pull water from the air and humidifiers put moisture into the atmosphere. If conditions become too humid, plants cannot transpire or breathe. Extreme humidity or lack thereof make pollination challenging.

Control Humidity

Maintaining optimal humidity requires monitoring and adjustments. Cultivating agreeable climate conditions for your greenhouse crops will reduce your risk of pests and disease, which will essentially cut down costs and use of pesticides or fungicides.

If your plants are growing in a dry environment, the greenhouse might benefit from a humidifier to boost the humidity. If you are concerned about the environment being too humid, maintain a humidity range by adding a dehumidifier.

Even if humidity is low or at a safe level, air exchange in your greenhouse is imperative. Use fans to keep air moving, but keep the fan from blowing directly onto the plants. Combine fans with ventilation to create airflow that reduces fast change in temperature difference and creates a gentle buoyant movement in the air. If temperatures are too cool, consider using heat mats to maintain your soil warmth.

To achieve favorable greenhouse conditions, consider what your plant needs during its life cycle. Consider growing seasonally for best results. Invest in a few items that will fit your space and maintain the ideal environment for your plants. A digital thermostat with a humidity meter is a primary tool to keep an eye on your atmosphere.



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Science For A Better Life

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Enjoy their Sterling Products and Prompt Service.

What is in a name and colour?

These are some of the questions that oftentimes strike curious minds. However, it holds a strong meaning of progress especially with its close identification with Agrichem Africa Ltd, a company that has long been identified with sterling products, prompt service, product diversity and above all its versatile acumen to perfect 'green'! The agricultural and fertilizer divisions of Agrichem Africa Ltd are so close to its customers that they have become synonymous. One can easily identify the broad network of the company's customers with the great milestone that the country's agricultural sector has attained over the years. The company has a unique crop teams made up of highly skilled specialists in different crops who are always on the move to access the remotest agricultural communities.

Introduction

Agrichem Africa Ltd is one of the country's companies linked with leading innovative crop science companies with an outstanding range of products and extensive service back up for sustainable agriculture. The company operates and serves the region from Nairobi, Kenya. The company holds a leading position in crop protection and offers farmers the most comprehensive range of crop protection products solutions in the region.

Customer partnership

Agrichem Africa Ltd offers much more than just products and services. The company's strategy is to build relationships with suppliers, intermediaries and end users. Such partnership is essential of our product and innovation is to be relevant, effective and ultimate, commercially successful. Those collaborations also guarantee that the farmer is offered what comes out of some well-researched chemistry and



service that will be of benefit to more than just the farmer but to everyone in the food chain, including the consumer.

Products

Agrichem Africa Ltd products are developed and produced inline with the international standards. Whether insecticide, fungicides, herbicides, seeds, seed treatment, fertilizers or post harvest treatments, they are precisely tested and undergo extensive research to ensure they fit in the local environment and cropping conditions before commercialization. They are registered for use in horticulture, cereals, cotton, coffee, sugarcane and all other agricultural sectors. In horticulture, Agrichem Africa Ltd offers a wide range of crop protection products and extensive technical information and backup to ensure successful crop management. Agrichem Africa Ltd is committed to a long term strategy of ensuring the farming community is well informed on proper use of crop protection products.

Operations

Agrichem Africa Ltd serves the country from the company's head office located off Outering Road, Baba Dogo, Nairobi. The products are distributed either directly to end users or via well-established regional agrochemical distributors. In addition Agrichem Africa Ltd has a back up of well trained team of technical representatives stationed in the major agricultural areas who offer technical advisory services directly to the end users through field-days, farmers seminars, field demonstrations as well as personal contacts.

From ornamentals to vegetables to cereals; from development of new molecules for trials and registration and sales etcetera, the company centres on specialized crop teams one for each of its main crops. Unlike many companies with a westernized structure, the system functions so that it would give the best harvest according to the crop. Team members meet regularly to evaluate how each expert is doing under the Managing Director Mr. Shiraz. To acquire new molecules, the team works closer to the customer who determines what they need thus giving them the guide as they design the products. In turn the technical department works closely with their colleagues in sales and marketing.

"Our team members have a certain spirit, based on respect and understanding the need of customers and willingness to cooperate," says, Shirish Ingale, the Company's Sales Manager, Floriculture. "Close interaction between the customers, sales/marketing and technical management teams with all members of the team jointly responsible for the results, is what really makes us different thus our secret of success." For the company, success means growth. Agrichem Africa Ltd is showing the strongest will of trading in both distributions of others as well as

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their own molecules. According to market statistics and government agencies, some multinationals import and promote their product but Agrichem Africa Ltd does the actual sales on their behalf for the floricultural industry. In addition, Agrichem Africa Ltd has acquired a number of its own molecules.

On development of new molecules, Mr. Shiraz says, "We do not just acquire products but make sure they are quality and from globally respected companies. In this era of genetics, molecules must be well proven to meet the highest standards." To keep the buoyant performance on track, the company stages full strategy reviews, looking closely at market demands, portfolio and pipeline of each crop for several years ahead. This is what bore their entry into the cereal market and small packs. Currently this includes expansion of operations in the first growing cereal and small packs business and to further consolidate its already strong position in ornamentals and horticulture.

In training, Agrichem Africa Ltd has significantly increased investing in stockists and growers with special focus on crop protection and customer service.

"They are customers that will be the key to helping us develop our competitive advantage in the future," says Mr. Patrick Muthengi, the National Sales and Marketing manager. Adding, "This kind of dedicated strategy, for example, will also give our customers a competitive edge, offering them unique trails in products that are ideally suited for their business". To date, Agrichem Africa Ltd has conducted training for their stockists in all the major agricultural zones. They have also trained large-scale growers. "We are only a phone call away from our customers," says Mr. Muthengi.

We are product specific to most of the customers. We even handle those who are

only interested in the product adapted to their specific growing condition and those who are looking for advice on the first growing method to get the best from their crop. Next are our distributors who want to add business services to the package, such as setting up contact with retailers in their own area. "Our mission statement describes us as customer focused and that's why we are organized to give the best customer service with the best technical back up to our clients", says Mr. Shirish. "Our global approach means we can supply agricultural exporters and ensure their products are of the desired quality for European high standards," says Mr. Muthengi. "Most flower growers are comfortable to work with us due to our network from agronomists up to the management," he adds.

Restoring Value

Agrichem Africa Ltd is developing two types of products i.e. new innovative products that are patented and bring new opportunities to the grower. Secondly, they are also developing off patented (generic products) that are sourced from leading manufacturers worldwide and meet the highest international standards such as Iso 900, Iso 18000 (safety), Iso 14000 (environment), GLP (Good Laboratory Practices) and the highest QC (quality control).

These way Agrichem Africa Ltd products meet the highest standards-European standards and the costs are farmer friendly. Mr. Shiraz says, "We ensure that our product is reliable and of highest quality, and we help educate our customers and end users on how to use the product safely and responsibly." Adding, "These offerings require added cost for the company. But to us it's a worthwhile investment, because that cost to us adds value-in very real ways. It improves the safety of the environment and people, and it serves as an assurance that we focus on quality even if it means extra cost on the business." At Agrichem

Africa Ltd, value includes drawing a spray program for growers. The value is unmistakable, less headache by the grower, better efficacy for the pesticides and less environmental footprint, and a final product easily acceptable in European market.

"We know that it takes more than just saying your focus is on value. It needs to be seen in action, in demonstrated form," says Mr. Muthengi. "This is why we participate in the exhibition; farmers open days and even organize our own field days with farmers. These create a conducive environment to private one-on-one meeting. We connect with people in ways that would allow us find a partner in us. It ensures we co-operate in ways that could bring more value to our customers.

Product Development and Registration

At Agrichem Africa Ltd, customers focus begins with product development. The technical team often accompanies their sales colleagues on customer visits, to get a better view on their needs. This approach is supported by the whole network of the staff located in the main areas. This ensures that the product is well suited to local climatic conditions. The network is extended further by selected growers' course from the zone where the trials are done. Data is collected across the spectrum and analyzed at Agrichem Africa Ltd head office. "We're happy because we get their feedback. They are happy because they are the first to get the best out of the product," says Loureen Wamalwa, company Technical Manager.

Before the product is commercialized, a registration dossier is prepared and presented to PCPB. "We must prove the product will add value to the industry," Loureen Wamalwa, company Technical Manager says. As the world rolls into a new perspective of innovation and diversity Agrichem Africa Ltd cannot remain behind. It holds a bright future which will also see its customers operate at a totally new level.

AMINO GOLD® SPREADER AND WETTER ADJUVANT FOR ENHANCING PERFORMANCE AGAINST RED SPIDERMITES

The active ingredient in AMINO GOLD® is Organosilicon applied as an Adjuvant for enhancing performance of KNOCKBECTIN 40EC® against Red Spidermites on Roses.

AMINO GOLD® is a Non-ionic Wetter and Spreader that improves spray coverage, adhesion and canopy penetration. AMINO GOLD® reduces surface tension of spray solutions, thereby promoting a high level of spreading on difficult to wet plant foliage. AMINO GOLD® alters solubility relationships to greatly increase and accelerate foliar absorption of pesticide through the plant cuticle. AMINO GOLD® enhances rain fastness thus decreasing the rain-free period required after spray application.

DIRECTIONS FOR USE

Target Crop	Roses
Target Pests	Red Spidermites
Application Rates	0.75ml of AMINO GOLD® with 0.5ml per Liter of KNOCKBECTIN 40EC® in 1,000Litres of water
Re-Entry Interval	6Hours



Application of Amino Gold on Roses at Valentine Growers Limited Kiambu

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Dick van Raamsdonk

Dick Van Raamsdonk is the Brain Child of IFTEX and makes a big contribution to Kenya's flower sector. Growers around the world open their farm gates for him. Buyers around the world pack their briefcases to answer his call. Mr. Masila Kanyingi has been covering him for the last five years and below is a tete-a-tete from different interviews and other researched pieces.

Tell us a little about yourself

Dick van Raamsdonk (59 years) graduated from Eindhoven University of Applied Sciences, after which he studied Economics at the University of Amsterdam. After that, he briefly worked for the World Flower Trade Center in Leiden. A little later, he started his own business.

Tell us about your Family

I have a young family as well of three young children, who keep me up at night on a regular basis.

What does your job entail

Established in 1984, HPP Exhibitions has already 33 years of experience in organizing trade exhibitions all over the world. It has organized more than 180 exhibitions in 35 countries.

HPP Exhibitions, with offices in Europe, South America and Africa, promotes companies active in the fields of Floriculture and Horticulture through international exhibitions all over the world.

We excel in creating high profile, highly targeted business to business exhibitions, where buyers and suppliers from around the world can come together to do business.

HPP Exhibitions business philosophy is centred on delivering business contacts and solutions that create added value for our customers. Our company values reflect this philosophy.

International developments have moved at such a fast pace over the last years that slowing down, even for a moment, will instantly put your company behind. Rapidly changing consumer demands, strong rising and falling economies, increasing cargo capacity facilities and upcoming new producing countries are reasons enough to carefully monitor threats and opportunities.

HPP offers a tool for keeping up to date on current developments in the Floriculture and Horticulture an opportunity to adjust your current production, logistics and marketing strategies.

Our main objective is to provide an excellent service in the organization and execution of professional international trade exhibitions and work towards ecological and economic developments in a dynamic worldwide market.

In an increasingly digital age, nothing can replace the power of human contact for establishing and maintaining business relations.

What is your ideal day like

I travel a lot. Am either in Quito, Amsterdam, Las Vegas, Nairobi, Tehran or Guangzhou. Among many other global cities. Am either meeting exhibitors, being part of an exhibition, talking to press or even engaging the governments. My day is dictated by the day's events.

You are the founder of HPP, and its first president. How is it

Demanding. Buyers and growers I speak with – even onboard the plane – says it was a perfect trade show. Let's say it was nearly perfect. Because total perfection doesn't exist. But I always see something to improve on. There are always little things that could be better. The demand for better keeps on coming out.

Discuss IFTEX 2017

IFTEX is the only event where you can meet all flower growers at the same time and place, together with its buyers. Going by history and current confirmation, it will be a very good show.

The fact that Kenya is the only country in the world where the production area of flowers structurally increases is a strong indicator that the sector -overall- is in a good shape. This cannot

mean anything different than strength for even more growth when coming into calm waters. Therefore IFTEX is an excellent instrument for the Kenyan floriculture Industry to support and accelerate this growth.

IFTEX will definitely grow in its sixth edition this year. Not only because of many more Kenyan growers who want to exhibit this time, but also last year exhibitors wanting to display in bigger stands. The most important thing that could have happened in the fair and which actually did happen is the change from doubt in belief that flower buyers did fly in and did attend the expo.

Furthermore, IFTEX is has become a regional event, hosting growers from other African flower producing countries that are too small on their own to hold such event. And as already mentioned, I expect IFTEX to become the Africa's flower grower trade fair within a few years, becoming the sourcing market for the world for any African fresh cut flowers.

Feedback has been positive; above expectations and the most important outcome was confidence in the future of this fair. There will be many new international exhibitors. Furthermore most, if not all 2016 exhibitors will be present again this year with, in many occasions, bigger sized stands.

Why did you choose this speciality

To make a difference. It's an amazing thing to do in terms of making a difference in floribusness people's life. As an event organiser, I have several roles. I can integrate all of them and work at the same time

How do you handle work load stress and emergency situations





Ever Jovial.

Emergencies are my priorities. Workload comes later

What are your weaknesses and strengths

Weakness: I am a perfectionist wanting to do things on my own. With workload, I have to identify the right person and delegate as I build others.

Strength: Being able to bring people together, networking, solving issues and creating ambience in business environment

Describe your successful accomplishments

"I've had a few good fairs now. There were some unexpected good results in Ecuador. IFTEX in Kenya went well, too. The four days in Iran were a nightmare in terms of organisation. So much red tape. But the trade show was nice and a big success. It was teeming with people. There is going to be 40,000 ha of horticulture in Iran. The exhibiting rose breeders immediately booked again. Everybody's coming along again, including those who didn't dare the first time round. I'm going to organise this

fair again. This is success. The rest of the shows have been quite successful too.

How do you explain your success?

Commitment, being specialised and above all, perseverance. I put my head down and keep going."

Aren't you very approachable as well

"Yes, I'm always having a laugh with everyone at the airport, at the trade shows. I know most of the exhibitors personally. We chat about business and private matters, about everything. In a normal way. Very informal. I don't need a management board. If you don't mingle with the crowd, you won't hear anything. How would you be able to do what the customers want? All I have to do is make sure that there is a fair and that I do what people want. Breeders want to meet growers and growers want to meet buyers. It's as simple as that."

"The time leading up to and during a trade show always gives me some tension. For me, a trade show is equivalent to

Valentine's Day for growers and flower exporters. I've got to perform during the fair. I can't really enjoy the time I spend at the fair. At long last, during the past six years, I've had a few successful trade fairs. I started in Taiwan in 1985 and the fairs we organised the first 25 years generated some income, but we only really broke through in 2010 and since then we've had a well-filled, stable portfolio. I gained lots of experience in those days, though. I used to love the pioneering, but nowadays, walking around on a successful trade show ..."

What do you do at your free time

I am a family man. I do not perceive my kids as a punishment though. I play the guitar and my daughter the piano. You can check on the YouTube Videos my performance with my daughter Tess – six years old at the time – in 2015, in the SBS 6 TV-programme singing John Lennon's 'Imagine' and the rest of the family in attendance. 'We are a family'.

What has been your greatest challenge in the events organisations field

Stepping on other people's toes as I try to make trade shows successful. I have no idea why. Sometimes it's personal, but I think its business most of the time. I sometimes get in other people's ways, which makes them worry that they'll be knocked off their perch. People don't like that. There isn't much I can do about it. These things are mostly related to business interests."



What are the challenges in the flower sector that you try to help

Having buyers and growers in one room for a business discussion.

What do you enjoy most about your work

Just seen buyers and growers sitting together in one setting to discuss business.

How do you balance between Job and Family

I try to set boundaries. I do not carry homework. When I get home its time to be with my family.

What are your future plans

"I'm trying to optimise existing trade fairs and establish and expand new, smaller trade fairs, such as the one in Iran. In addition, I would really like to organise a World Horticultural Exposition one day. A bit like a Floriade for businesses. An expanded version of IFTF, with maximum activity of growers, breeders and suppliers of dry materials, all gathered in one place. An event that will be visited by end-product buyers as well as by growers and which will last for a week or even longer. Perhaps as a one-off only. There aren't too many other things on my list. I'm busy enough as it is."



Takes time to discuss with Exhibitors



Dick addressing the 2017 IFTEX opening ceremony

Thrips management: You Can Never Walk Alone

In spite of great advances in insect-pest control strategies, thrips still remains to be one of the most challenging pests to control across the world. Dr Arturo Golderacena of Catholic University of Louvain, Belgium discussed this issue during a two-day seminar organised for flowers and vegetable growers by Dudutech and Dow Agrosciences. The combined approach by One of the Leading global Insecticide Giants and a globally respected Biological Solutions Innovator proved no one can walk alone.

What Are Thrips

Thrips (order Thysanoptera) are one of the most widespread, economically damaging and difficult pests to control worldwide. They are one of the smallest known winged insects and are named after their fringed/eyelash like wings. They cause damage to plants by piercing the cells of surface tissues and feeding on the sap. This causes the cells to die leaving unsightly sunken white blotches on leaf surfaces. Leaves may also be deformed and blossoms damaged by feeding in flower buds or on surface new vegetative growth. Thrips also transmit deadly viruses like Impatiens Necrotic Spot Virus (INSV) and Tomato spotted wilt virus (TSWV) that can devastate numerous crop varieties.

An high propensity of thrips in developing insecticide resistance has been attributed to its biological attributes. Indeed, thrips have proven notoriously difficult to control owing to their small sizes, high rates of reproduction

and cryptic habits. A female thrips can produce up to 140 eggs (at 25oC). This quickly leads to great numbers of thrips infesting individual plants. An infestation of thrips may begin through insects being introduced into the greenhouse along with planting material and later in the season, adult thrips may fly from outside. The spread of thrips can be both active (flight) and/or a passive process (floating on air currents).

Monitoring

Scouting/monitoring is the regular and systematic inspection of crops and other detect ion tools (sticky cards, etc.) to identify insect pests, diseases, nutrient deficiencies and other problems. It is a corner stone of effective IPM. How can you manage your pest problems if you don't know what's there? A sound scouting program provides, an early detection of pest problems, and locates areas prone to problems; trends in the population levels of the



Dr. Arturo Golderacena of Catholic University of Louvain, Belgium

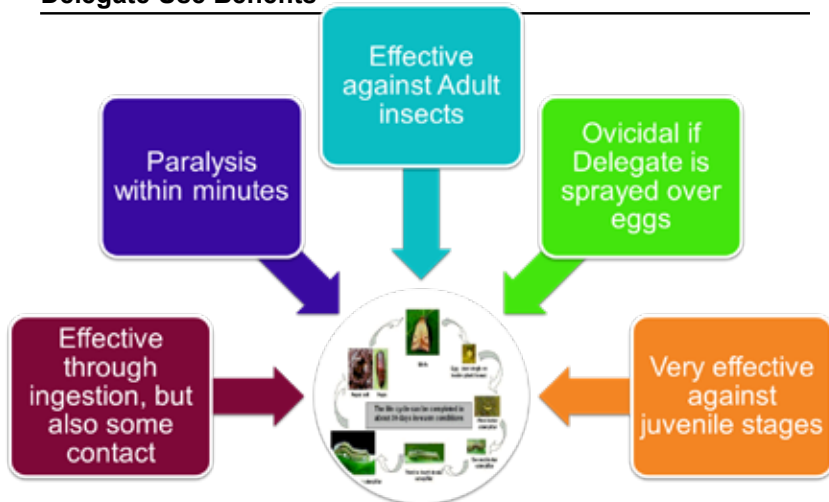
pest or biological control agent; enables the grower to identify the optimal time and method for treatment; and measures the effectiveness of a management action (biological control or chemical insecticide treatment). A grower must develop a scouting program that works for him/her, taking into consideration how much time is available, and the severity of past pest problems.

An effective scouting program will save time and money in the long run by allowing the grower to manage problems early. It is best to use a consistent approach, even if time is short.

What are the Damage symptoms?

In Flowers there are mainly two types of Thrip species that attack Roses, Carnations and other flowers. The western flower thrips (*Frankliniella occidentalis*) and *Thrips tabaci* also known as Onion thrips. These thrips

Delegate Use Benefits



species mainly feed on both leaves and flower petals with the majority of their damage to roses occurring throughout the growing period of the flowers. Their feeding may result in distorted buds that open only partially or abort prematurely. Feeding on petals may result in petals streaked with silvery-white or brown as well as petals with browning edges. White and light-colored rose blossoms appear to be particularly attractive to thrips. Young leaves may be distorted and flecked with yellow as a result of thrips feeding.

Management

Thrips are difficult to control. Always use an integrated program that combines the use of good cultural practices, natural enemies, and the most effective IPM-friendly available.

Why an integrated management approach for thrips?

As highlighted earlier, insecticide resistance is just one the issues growers have to contend with in control of thrips. Increasingly, growers are facing more stringent market demands with mounting pressure to reduce the number of molecules and observe maximum residue levels (MRLs) on their produce. This turn of events has of course cast growers in an unenviable situation. The reality is that no single control measure can effectively manage thrips population and this calls for an emphasis on an integrated management approach. In order to counter insecticide resistance in the western flower thrips, several insecticide resistance management (IRM) programs have been developed around the world. The core objective of IRM programs is to maximize the lifespan of efficacy for insecticides. Research has shown that successful IRM programs rely on non-insecticidal tactics, such as biological and cultural controls and host plant resistance to reduce population pressures. Also of importance is the rotation among insecticides of different mode of action classes, resistance monitoring, sampling to determine the need for insecticide applications and education to assure proper implementation. Growers need to adopt a proactive rather than a reactive approach in implementation of IRM programs in order to maximize their chances of success. The focus should be on more judicious

insecticide use, and this can be accomplished with the development of well-founded economic thresholds.

Chemical control.

While speaking in the same seminar, Mr. Oscar Shilliebo of Dow Agrosociencias informed growers the company has some of the best molecules against Thrips if well used to avoid resistance. One of the best, and most effective insecticides that fits this profile is Delegate. Spinetoram (DELEGATE 250WG) is a second generation active from the spinosyn family. This product has improved residuality, improved photostability, improved speed of activity (fast knockdown), ovicidal activity when sprayed on eggs (Caterpillars), improved spectrum and has translaminar activity and safe to beneficial insects that are not in contact with the wet spray. In addition to control of Thrips the product also controls Caterpillars (*Spodoptera exigua*), whitefly nymphs and leaf miner.

Biological control

Dudutech took growers through a range of their solutions for thrips. Biological control of thrips relies on the use of natural enemies including predatory mites and pirate bugs, entomopathogenic (or insect-killing) fungi, and entomopathogenic nematodes.

Predatory mites

The predatory phytoseiid mites, *Amblyseius cucumeris*, *Iphiseius degenerans*, and *A. swirskii*, are well suited for immature thrips control on greenhouse crops. Like thrips, they prefer small niches where contact between predator and prey is maximized. These predators feed on pollen when thrips populations are low and must be introduced before a thrips population has built up to damaging levels. The mites establish themselves on leaves, usually on the undersides, and are most effective in attacking 1st instar thrips nymph. They use their mouthparts to pierce the thrips and suck out the cellular fluids.

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



Dr. Subbi of ICIPE

applied frequently based on pest pressure.

Pathogens

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

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

In conclusion...

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

Chrysal Total Chain Concept

All Chrysal products have been especially developed to meet the specific needs of cut flowers and plants at every stage of the chain. Using the right flower and plant care products at every stage of the chain ensures minimal loss in flower and plant quality and waste. To this end, Chrysal distinguishes three user groups throughout this chain and seeks to cater for their specific needs. The result: more profit and increased customer satisfaction. Chrysal Africa offers products and services suitable for each stage of the chain.

The Grower:

Products: Chrysal Post-harvest products: CVBN, SVB, Chrysal Inicial, AVB + AVB Booster & BVB

Effects: Protects flowers against physiological disorders and stimulates water uptake

Services: Audits, "Chrysal Code of Practice" and technical consulting.



Tablets



Tablets



Powder



Liquid



Liquid



Liquid

The Wholesaler / Bouquet Maker:

Products: Chrysal Professional Line; RVB Clear

Effects: Chrysal Professional 2 keeps the flower in optimum condition and can be used for transportation or display of flowers.

Services: POS material, audits, "Chrysal Code of Practice" and consulting support on e.g. automation, waste and cost management processes.



Liquid



Liquid

The Consumer:

Products: Chrysal cut flower food ~ Powder and Liquid Formulations

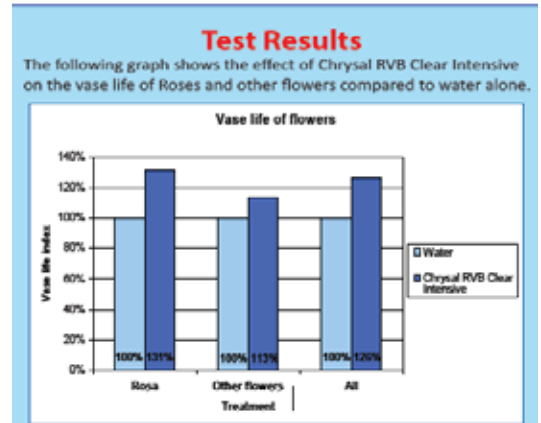
Effects: Chrysal cut flower food provides nutritional supplements to the flower for optimum bloom and a long and enjoyable (vase) life for the consumer.

Services: Private label design, FAQ and care information.



Chrysal presents its range of **Post-Harvest Products** targeting Cultivars with specific treatments aimed and delivering Beautiful

RVB Clear 1ml/l - this is a multi-ranging biocide combined with surfactants and acidifiers to ensure efficacy and results - **This Premium Rose post-harvest treatment** is recognized as a global Market Leader

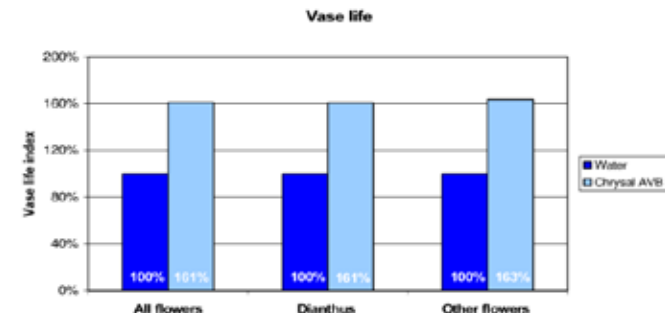


The following table shows test results on various Kenyan Rose cultivars. Chrysal RVB Clear Intensive is compared to the current treatment used by the grower, mostly 'homebrews'.

Variety	Average vase life days in: Current treatments	Chrysal RVB Clear	Improved vase life (%)
Revue	7	10	42%
Circus	8	11	38%
Pascha	8	16	100%
Red one	9	16	77%
Akito	10	15	50%
Red calypso	13	15	15%



AVB 1ml/l – a treatment for **Ethylene Sensitive Crops:** Applicable to Carnations, lilies, Delphiniums, Agapanthus, Alstromeria's, Spray Roses and Standard roses for longer storage.



Chrysal Inicial: 0.3ml/l – this is a field based **Post Harvest solution** with long lasting and slow release Chlorine for hygiene reasons combined with Aluminum Sulphate for acidity and flocculation properties.

Ruth Vaughan, Technical Director, CropNuts

In my line of work I visit hundreds of flower farms a year; the flourishing, the ticking over, and the ones in dire straits.



Critical Issues in Plant Nutrition in Floriculture

A lot of my hard work is dealing with farms that suddenly run into problems. “Ruth, please come and visit our farm as soon as possible, our production has suddenly dropped to half” is a common call.

My advice to flower farmers on the critical issues in plant nutrition in floriculture would be as follows:-

Start with the basics and know what you are dealing with. A solid ‘risk’ assessment before you even buy the farm is recommended. Dig soil pits to look for soil layers, compaction zones, soil depth, underground water or solid rock. Is the soil type even across the farm? Where does the water go when it rains? Does it hail in this area? What are the day/night temperatures and what is the annual rainfall? Look at the aspect and slope of the farm, will you need special drip lines? Do a complete soil analysis, nematode count, pathology screen and irrigation water analysis. Now you know what you are dealing with and can work out the economics. It’s better to get a shock now than after your investment.

Before planting in the soil, balance the cations with the soil recommendations from the complete soil analysis and add organic matter, deep rip the soil to break up compaction zones, do not turn the luscious topsoil over and bury it. This will hold you in good stead further on down the line, when your beginner’s luck is over. Buy a fertigation system that can handle your water volumes and your water quality. Plan a proper irrigation program based on the plant size, plant type and production. Take quarterly samples for a 1:2 soil grown flowers analysis so that you know what’s happening in the soil and can deal with it before it becomes a problem. Back this up with some leaf analysis to make sure there is no ‘hidden hunger’ in the crop limiting your production. Identify problems early before they hit your bank balance.



Before planting in media do a media analysis, nematode count and pathogen screen. The nice certificate of testing that comes with your coco-peat does not account for the conditions the coco-peat has travelled or been stored in. The fine pumice or gravel from your neighbour’s quarry could have toxic salts, silts and nematodes.

Do bi-annual nematode counts. You can't see nematodes with the naked eye, and by the time your plants go yellow, you will have lost much of your production and quality. It is also easier, cheaper and more environmentally friendly to treat low nematode levels. Once levels get out of control you have to resort to the big guns, in the red and orange zones of your audit guidelines. Nematodes severely affect plant nutrition.

Water testing is crucial. Know your water. Borehole water tends to have a more constant quality and tests are advised twice a year. Surface water quality can vary dramatically depending on rainfall and evaporation. Rain water is best - plan to catch as much of this as possible. Water quality has a major impact on your plant production and health and the way you manage your irrigation.

Water can have high sodium, you might opt for a reverse osmosis system or mix with rain water to bring this down. You have to monitor the sodium levels in the soil. Plants can tick along happily with a small amount of sodium in the soil but when it reaches a critical levels you will get a rapid decline in production and plants will become very susceptible to diseases. Work with humic acids and calcium products in conjunction with leaching to flush the sodium out. If you didn't follow the initial guidelines you might find this a problem. Water saturated underground soil, bedrock, compaction layers and unbalanced cations will all impede the leaching.

Water can have high bicarbonates – these 'lock' up phosphorous and micronutrients in the soil, creating a free lime deposit that raises the pH. Once the free lime has built up in the soil, it is very hard to deal with. Much better to treat the problem at source and acidify the water. Acidification can result in an increase in nitrates from nitric acid or phosphates from phosphoric acid and the fertigation program has to be adjusted to balance these. Quarterly drip analysis will check the EC, pH, nutrient, and bicarbonate levels of your drip water and ensure that everything is going to plan. On-farm daily EC and pH measurement are advised. Many a farm has 'tripped up' due to fertigation system faults that were not picked up soon enough. High levels of carbonates (hardness), in the water may interfere with the acidification due to a buffering effect and you will find that the pH goes up after the fertigation system. If this is a hazard, then a laboratory controlled acid titration is recommended, and you may have to put a pre-acidification unit into your farm.

Irrigate sensibly – get a soil water meter, or go around the farm often with an auger to check soil moisture levels. Water you see on the surface is not what the roots see underground. Over and under watering affect nutrient uptake and production.

Be aware of changes. At the moment Kenya is in a major drought

situation and rain water reservoirs are emptying. These are being topped up with borehole water. The reservoir water quality is changing weekly, and should be monitored through this transition period until water quality stabilizes. Borehole water may have a high pH and EC and high levels of some nutrients and toxic ions. An increase in EC means that the 'space' between water EC and the irrigation EC shrinks and you don't get so many fertilizers on your crop. You will see a decline in production and leaf yellowing. A rapid increase in pH due to what I call 'the bouncing bicarbs', can have two negative effects.

1) Your machine cannot handle this and high levels of bicarbonates hit the soil causing phosphate and micronutrient lock up.

2) Your machine can handle it and you suddenly have a deluge of nitrates or phosphates going into in the crop. Both results in production collapse, soft growth and leaf drip. Some borehole water have high magnesium or potassium and if you do not adjust your feeding program, your soils will tighten up and oxygen and water infiltration will stop – again yellow leaves and leaf drop. Monitor water quality regularly and adjust your fertilizer program.

Take the guess-work out of farming. Analyze, analyses, analyses. It will save you money in the long run. Plan the analysis that you need in advance and budget accordingly. Read and use your analysis results. Don't file them in the drawer until the next audit. Audits are meant to guide you and there is a reason they recommend you do these analysis! If you don't understand anything, just ask! Or get a professional consultant in.

Seek independent analysis and advice. The man selling iron chelates will most probably find an iron problem in your crop. The man selling nematocides will always find a few nematodes that need treating. That's their job.

Read and follow dosing instructions. The suppliers have done extensive tests on their products before they write the labels and go to market. A little bit of something, used properly can have a brilliant result. Don't be tempted to over-use or over apply products. I have seen some catastrophic results from product over use.

If all goes well – analyze so that you know what you are doing right and can replicate it.

If all goes wrong – don't over complicate things, go back to the basics, call in the professionals, and recover faster!

Ruth Vaughan, Technical Director, CropNuts

WTO's Trade Facilitation Agreement enters into force

A major milestone for the global trading system was reached on 22 February 2017 when the first multilateral deal concluded in the 21 year history of the World Trade Organization entered into force. In receiving four more ratifications for the Trade Facilitation Agreement (TFA), the WTO has obtained the two-thirds acceptance of the agreement from its 164 members needed to bring the TFA into force.

Rwanda, Oman, Chad and Jordan submitted their instruments of acceptance to WTO Director-General Roberto Azevêdo, bringing the total number of ratifications over the required threshold of 110. The entry into force of this agreement, which seeks to expedite the movement, release and clearance of goods across borders, launches a new phase for trade facilitation reforms all over the world and creates a significant boost for commerce and the multilateral trading system as a whole.

Full implementation of the TFA is forecast to slash members' trade costs by an average of 14.3 per cent, with developing countries having the most to gain, according to a 2015 study carried out by WTO economists. The TFA is also likely to reduce the time needed to import goods by over a day and a half and to export goods by almost two days, representing a reduction of 47 per cent and 91 per cent respectively over the current average.

Implementing the TFA is also expected to help new firms export for the first time. Moreover, once the TFA is fully implemented, developing countries are predicted to increase the number of new products exported by as much as 20 per cent, with least developed countries (LDCs) likely to see an increase of up to 35 per cent, according to the WTO study.

DG Azevêdo welcomed the TFA's entry into force, noting that the Agreement represents a landmark for trade reform. He said: "This is fantastic news for at least two reasons. First, it shows members' commitment to the multilateral trading system and that they are following through on the promises made in Bali. Second, it means we can now start implementing the Agreement, helping to cut trade costs around the world. It also means we can kick start technical assistance work to help poorer countries with implementation." "This would boost global trade by up to 1 trillion dollars each year, with the biggest gains being felt



DG Azevêdo with (from left to right) Ambassador François Xavier Ngarambe of Rwanda, Ambassador Malloom Bamanga Abbas of Chad, Ambassador Saja Majali of Jordan and Abdulla Nasser Musallam Al Rahbi of Oman presenting their countries' TFA instruments of acceptance.

in the poorest countries. The impact will be bigger than the elimination of all existing tariffs around the world."

"But this is not the end of the road. The real work is just beginning. This is the biggest reform of global trade in a generation. It can make a big difference for growth and development around the world. Now, working together, we have the responsibility to implement the Agreement to make those benefits a reality."

The Agreement is unique in that it allows developing and least-developed countries to set their own timetables for implementing the TFA depending on their capacities to do so. A Trade Facilitation Agreement Facility (TFAF) was created at the request of developing and least-developed countries to help ensure they receive the assistance needed to reap the full benefits of the TFA and to support the ultimate goal of full implementation of the new agreement by all members. Further information on TFAF is available at www.TFAFacility.org.

Developed countries have committed to immediately implement the Agreement, which sets out a broad series of trade facilitation reforms. Spread out over 12 articles, the TFA prescribes

many measures to improve transparency and predictability of trading across borders and to create a less discriminatory business environment. The TFA's provisions include improvements to the availability and publication of information about cross-border procedures and practices, improved appeal rights for traders, reduced fees and formalities connected with the import/export of goods, faster clearance procedures and enhanced conditions for freedom of transit for goods. The Agreement also contains measures for effective cooperation between customs and other authorities on trade facilitation and customs compliance issues.

Developing countries, in comparison, will immediately apply only the TFA provisions they have designated as "Category A" commitments. For the other provisions of the Agreement, they must indicate when these will be implemented and what capacity building support is needed to help them implement these provisions, known as Category B and C commitments. These can be implemented at a later date with least-developed countries given more time to notify these commitments. So far, notifications of Category A commitments have already been provided by 90 WTO members.

The added value of MPS-GAP

MPS is now working on the latest version of MPS-GAP. This creates version 10 of MPS-GAP effective on 1 July 2017. The added value of MPS-GAP is not only reflected in the comparability with GLOBALG.A.P. Above all, it is the unique combination of safeguarded environmental requirements in MPS-ABC.

We sharply monitor the developments in the market and society and implement them in MPS-GAP creating a dynamic schedule at an attractive price. The logo with a unique grower's number on the packaging provides optimal

visibility. Retail and trade use the MPS-Trade portal to check MPS-GAP certification and align their purchases accordingly. Tracing on MPS' website is also possible by using the unique growers number.

For Ahold, MPS-GAP certification is mandatory to deliver flowers and plants. Leon Mol, Director Product Safety & Social Compliance: "Sustainability is fully implemented in our operational department. Social well-being, a better environment and waste reduction are closely connected with this policy.



Dr. Golderacena-Key Speaker



Mr. George Mala of Dudutech



Mr. Francis karanja of Dow Agrosciences



Dr. Golderacena discuss with Mr. Mala



Dr. Subi of ICIPE giving his presentation



Participants Keenly followed the presentations



One of the participants sharing.



Oscar of Dow and John of Dudutech discuss progress

Primarosa Moves operations to its Nyahururu firm

According to the company's Chief Executive, Virag Joshi, the move has been influenced by the recent drought situation that has seen the company suffer from acute water shortage, thus increasing the operational expenditure of buying water to sustain production of roses.

The company says the farm's water reservoir in Athi River has been completely depleted. For the last few months, the company has been sustaining the flower farm by purchasing borehole water to sustain the production. The company has been operating on its six reservoirs and underground tanks combining a collection capacity of over 380 cubic meters of water which is now exhausted.

Meanwhile, as part of its expansion plan, Primarosa will also be looking at new farms around Nyahururu to increase its current export of over 100 million roses which is achievable due to favourable weather conditions, around the region. Joshi said that the company will not be laying off any of its staff during the transition process to Nyahururu:

"We adequately gave a one-month notice to our staff in March, informing them about the relocation of our operations to Nyahururu. None of them will be laid off. Those who will voluntarily not move with us will be sufficiently compensated according to the terms of their contracts."

He also stated that the company requires more employees during this expansion process and that more people will have an opportunity to earn a livelihood as the company progresses towards growth and expansion.

"We are currently employing over 1500 employees in all our farms and with this expansion process, we will employ another 20 percent."

Early this month, Seychelles President, His Excellency Danny Faure visited Primarosa in a move that will see Seychelles import roses from the firm in a trade agreement with Kenya.

Tambuzi: New roses available soon!

We have some new exciting roses coming into commercial production very soon. The varieties have been trialled and passed our criteria of scent, shape and colour, to become Tambuzi roses.

We start off with Paco Rabanne.....

PACO RABANNE®

This rose has a beautiful warm colour, starting with pale pink outer petals, and opening to an orange yellow-salmon centre. The stems are long, thick and strong, the foliage is dark green and glossy. The rose also has a charming fruity scent, which grows stronger as the rose opens.

It is bred by Nirp® and is named after the famous French fashion designer of Spanish origin, Francisco "Paco" Rabaneda Cuervo, (more commonly known under the pseudonym of Paco



Dümmen Orange to distribute for Jan Spek Rozen

The partnership between Olij Breeding BV and Jan Spek Rozen was recently extended with the signing of a new contract. Following the integration of Olij Breeding BV into Dümmen Orange, this expands the two companies' collaboration into even more areas of expertise.

Under the new contract, Dümmen Orange is now the agent for Ethiopia, Kenya, Colombia, Poland, Rwanda, South Africa, Tanzania, Uganda, Zambia and Zimbabwe. Dümmen Orange has also signed a distribution agreement with Jan Spek Rozen for a number of countries worldwide.

Erik Spek, Director of Jan Spek Rozen: "The international nature of Dümmen Orange gives us access to a large network with plenty of potential. We are delighted with the new arrangement and have great expectations for the future."

Key principles of the collaboration are continuity of service for customers and optimisation of growing conditions. The Dümmen Orange GreenCare programme will be implemented at all production sites to ensure that crops are grown in optimal conditions. Philippe Veys, Global Product Manager Roses at Dümmen Orange: "The Jan Spek Rozen range has great value to us and our customers. It offers both companies opportunities to improve and build on quality and reliability in production. Our market expertise coupled with our infrastructure at various sites will enable our customers to benefit even more from this collaboration."

Over the next few months the two companies will focus on marketing the product assortment and informing customers about the opportunities presented by the collaboration. The Jan Spek Rozen range will be showcased to customers as part of Dümmen Orange's marketing activities.



Panalpina to acquire Kenyan freight forwarder specialized in perishables



Conrad Archer, Managing Director of Panalpina Airflo

International freight forwarding and Logistics Company Panalpina is to acquire Air Connection, a Kenya-based forwarder specialized in the export of flowers and vegetables. The move comes after Panalpina's acquisition of Airflo in Kenya in 2016 and only two weeks after the company formally announced the launch of its global Perishables Network.

Panalpina will acquire the family-owned Kenyan company Air Connection, subject to conditions. The companies reached a respective agreement on May 2, 2017.

"The acquisition of Air Connection will strengthen our existing global Perishables Network and our position as the clear market leader in the perishables arena in Kenya," says Stefan Karlen, Panalpina's CEO. Air Connection is specialized in the export of flowers and vegetables from Kenya to multiple destinations including the Netherlands and the UK, and is currently the country's fourth largest forwarder in terms of air freight export volumes. The merged company will handle around

70,000 tons of perishables air freight per year.

The activities of Panalpina and Air Connection in Kenya complement each other. "While most of Panalpina's flower exports from Kenya currently go to auctions in Amsterdam, we are specialized in direct shipments to customers," says Manjit Brar, owner and managing director of Air Connection. "And while Panalpina is strong with big charter shipments from Kenya to Europe, our strength lies in smaller shipments on scheduled passenger flights to over 150 destinations worldwide."

Direct shipments are a trend in the perishable market, explains Conrad Archer, managing director of Panalpina Airflo: "Increasingly, buyers of perishables want to source directly from the producer and producers want to sell directly to the country of consumption. Direct shipping bypasses intermediaries, reducing touch points in the supply chain. It removes unnecessary costs, potential delays and most importantly allows a fresher product to be offered to the consumer.

At the same time, this development will make sophisticated end-to-end solutions even more important than today. Joining forces with Air Connection will offer additional opportunities to grow the perishables business in Kenya, especially with the export of vegetables, herbs and cuttings."

The merged company will employ over 350 staff in Nairobi and offer 3,000 m² of cold storage capacity, which is soon to be extended even further to 4,000 m². It will also run an office at the port of Mombasa where Panalpina plans to develop the ocean freight business for both perishables (using reefers) and dry cargo. The dry cargo activities involve the import of textiles and export of fashion products, mainly to the USA. Manjit Brar, who founded Air Connection in 1993, will remain as a consultant.

The companies have agreed not to disclose any financial details of the deal. The acquisition is subject to approvals by the relevant competition authorities.

Air France KLM's flower boost

Air France KLM Cargo recorded a boost in flower volumes over the last five weeks on the back of demand for Valentine's Day and International Women's Day.

The Franco Dutch airline handled around 5,000 tonnes of flowers from countries like Kenya, Ecuador and Colombia during the last five weeks.

The carrier said that Amsterdam is one of Europe's main flower logistics centres because it is home to Royal FloraHolland, the largest trading centre for flowers in the world.

In 2016, the carrier group shipped more than 60,000 tonnes of flowers from Kenya, Zimbabwe, Ecuador and Colombia to Schiphol.

Marcel de Nooijer, Executive Vice President AIR FRANCE KLM MARTINAIR Cargo said: "With one



extra full-charter freight flight, upgrading aircraft capacity and making full use of our extensive wide-body belly passenger network, [AF KLM Cargo] is proud to show our ongoing commitment and dedication to the flower business, which has a proven history over so many decades."

The carrier group last year formed the Holland Flower Alliance together with Amsterdam Airport Schiphol and Royal FloraHolland.

Oserian Flowers signs its employees to mobile health insurance

Kenya's leading grower and exporter of cut flowers, Oserian Development Company, has signed its workers to a mobile health insurance scheme becoming the first flower firm globally and large employer in the agricultural sector in Kenya to embrace e-health.

The signing coincides with a visit to the country by Dutch investors seeking investment opportunities in the health sector this week. The mobile health wallet solution will be run over M-Tiba, a Dutch platform developed by CarePay in partnership with Safaricom and PharmAccess Foundation. Dutch healthcare system is rated by Eurohealth Consumer Index as the best on the continent, for seven years in a row.

The development marks a key milestone for the welfare of over 4,600 workers at the expansive Naivasha-based flower farm and adds up to a host of staff programmes the farm has rolled out that have become the industry's benchmarks including a modern day care and breast feeding (crèche) center for staff children and wellness clinics for cancer screening.

"Our core business is production and daily supply of the best of Kenya flowers globally which wouldn't be possible without a healthy workforce. As we kept expanding, it was becoming more and more challenging to operate the staff outpatient scheme as we brought in more employees each year," said Kirimi Mpungu, the Director of Administration at Oserian.

"We needed a solution that was sustainable and manageable which could bring new insights into how to further improve staff health and wellbeing. We're pleased to be among those leading the way on mobile health innovation and we see M-TIBA as the future for the management of outpatient schemes by employers and insurers," Mr Kirimi said.

Oserian, a high technology farm has developed a policy on health based on Sustainable Development Goal No 3 that is entrenched in Kenya's Vision 2030, placing health as a



Mr. Kirimi Mpungu, Director of Administration at Oserian Development Company Limited and Kees Van Lede, CEO of CarePay Limited at the signing ceremony of their partnership with CarePay Limited to provide Oserian employees with mobile outpatient health management solution.

foundation for economic and social growth. It falls within the farm's Flori4Life pillar that seeks to make lives better for staff and surrounding communities.

Under the scheme, over 8,000 users made up of employees and family members will receive an M-TIBA wallet on their mobile phone, allowing them to get access to outpatient care at Oserian Health Centres. The medical data collected via the M-TIBA gives accurate insights into common ailments – and this allows for targeted interventions to keep staff healthy and motivated, Mr Mpungu reiterated.

Kees Van Lede, CEO, CarePay says, "This is another first for the Kenyan floriculture sector. Oserian was the pioneer in exporting flowers from

Kenya. Now global buyers and consumers know that there is world-leading mobile technology enabling the people behind the flowers to access the best possible health care."

Mary Kinyua, Human Resource Manager at Oserian, adds, "Employee health is very important to us. We have free outpatient scheme for all employees, spouses and four children at our Health Centers. From a business perspective, we needed to move to paperless management of medical scheme benefits to make this important benefit more efficient and get real-time information that helps us take better care of staff." With M-TIBA, large employers report double-digit percentage savings on outpatient schemes delivered through real time access to data enabling targeted interventions.

Uhuru raises minimum wage by 18 per cent

President Uhuru Kenyatta has directed that the minimum wage for Kenyan workers be raised by 18 per cent. He made the announcement during his Labour Day speech at Uhuru Park in Nairobi.

The head of State also issued a directive to raise non-taxable bonuses and overtime to cushion low-income earners.

Profession	Minimum wage 2016	Minimum wage 2017
Domestic workers	10,000	11,800.00
Handing males	10,000	11,800.00
Registered nurses	12,225	14,425.76
Medium	12,000	14,160.00
Unskilled	10,000	11,800.00
Public employees	16,000	18,880.00
Senior labor	16,000	18,880.00
Construction workers	10,000	11,800.00
Ministers	20,000	23,600.00
Teacher/Worker	12,750	15,045.00
Construction workers	10,000	11,800.00
Senior labor	16,000	18,880.00
Senior labor	16,000	18,880.00

"I understand that you want to have more disposable income to be able to meet your families' needs. I am aware the workers on the lower income bracket are struggling to afford basic necessities. It is not fair that they should be taxed heavily," said Mr Kenyatta. The directives come amid concerns by Kenyan employers that any further increase to the minimum wage would push up expenses for businesses and force further retrenchments.

We have to think big, lest we get marginalised



Mr. Lucas Vos

"If we want to stay a dominant force in international floriculture, we'll have to bind the international trade channels to us. Even if those channels are in competition with our own growers. We have to think big, lest we get marginalised, says Lucas Vos."

As an example, Lucas points to the growing number of roses coming from Ecuador. Are they allowed to enter the Dutch marketplace? "I

understand perfectly well Kenyan growers are not keen on that, because it does not benefit them. The question is: would those roses end up going through the Dutch channels anyway?

Yes, because all of our clients use global sourcing and they are well organised."

Holding position

Lucas feels it is of the utmost importance that Royal FloraHolland holds its position as the leading marketplace, the hub of supply and demand in floriculture. "Anyone can be a supplier. And all international clients can buy their goods here. The only thing we stay well clear of, is offering services after the moment of purchase. Our exporting clients

already take care of that."

Growth across the borders Is there a cooperative out there that is similar to Royal FloraHolland? Lucas has Friesland Campina in mind, a dairy company with members from the Netherlands, Germany and Belgium. And this cooperative also buys milk from Chinese and Pakistani dairy farmers, among others. "It's interesting to see how this Dutch company goes about its business. All supply goes via Friesland Campina, but it's not restricted to members only. Royal FloraHolland is a vibrant Dutch cooperative, and we're solid as a rock. In order to grow, we need to look across our borders, if I'm honest. And I'm talking about increasing the turnover here, not about gaining more members. Growth should not be inextricably

linked to membership, in time to come. Floriculture in the rest of the world is growing faster than in the Netherlands, and we should act accordingly."

We need to change

Is our marketplace indispensable? The world around us changes so rapidly that we have no choice but to go with the flow, Lucas stresses. More and more international marketplaces come into existence - take E-Bay and Alibaba, for instance - and Royal FloraHolland can take advantage of that development. "By going even more digital. The market will dictate the course our physical marketplace will take. At the same time, we must remain true to ourselves. We must play the leading role on the stage of international floriculture."

China International Floriculture & Horticulture Trade Fair To stay in Guangzhou in March, 2018

China International Floriculture & Horticulture Trade Fair (Flower Expo China) (Also called "CFTF") was held very successfully in Guangzhou. Even though the florist supplier were very busy at March, at that time they were drawing into the work of preparing Chinese Spring Festivals, Vantentials' Day and Women's Day, but it is really good time for sourcing and good beginning for New Year. Following the good result of this year's Flower Expo China, the choice for the month of March for 2018 was confirmed to continual again by organizer Guangdong Grandeur International Exhibition Group.

Co-organizing with Holland HPP Exhibition, and supporting by many international floral association, the 2017 show you already miss. Lots

of international flower growers and florist related product made wonderful industry feast together in Guangzhou. Both exhibitors and visitors were very satisfied with the results. Undoubtedly, "Professional" is key element to be a success.

What's more, it also was a real opportunity for flower buyers to source fresh cut flowers from the main flower producing countries, i.e. Ecuador, Colombia, Kenya, Ethiopia, and Holland and so on.

Another one of most exciting news is that, Kunming Flower Association strongly encouraged what organizer did this year, and they will join us together to make 2018 (March 21 to 23) show more wonderful.

FSI Members using the Basket of Standards in their supply chain

The Kenya Flower Council Flowers and Ornamentals Sustainability Standard is in the FSI basket of standards,

an instrument developed by the Floriculture Sustainability Initiative (FSI) to mainstream and promote responsible sourcing of flowers & plants in the areas of environmental and social practices. The FSI Basket enhances transparency on standards criteria, identifies responsible sources through independent benchmarking, avoiding duplication of costs and audit fatigue in the supply chain. As individual companies, FSI members are committed to promote and put the FSI basket of Standards into use in their supply chain. Kenya Flower Council is a Member of FSI.

Recognized as independent international reference for responsible sourcing, the FSI Basket is also a practical tool to identify the basic requirements and help avoid duplicate certifications, audits and costs. The shared objective of FSI members is to have the floriculture supply chain, from breeders and growers to florists and retailers recognize and use it in their supply chain.





FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA-Flowers-Rumuruti	Roses	Rumuruti	Shailesh	0722 203750	shailesh.raiaaagrowers.co.ke
AAA-Flowers -Chui Farm	Roses	Timau	Shailesh	0722 203750	shailesh.raiaaagrowers.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	-	0721-837968	sales@africala.com
African Blooms	Roses	Nakuru	Ravindra	-	-
Afriscan Kenya Ltd	Hypericum	Naivasha	Charles Mwangi	-	-
Alani Gardens	Roses	Nakuru	Judith Zuurbier	0722 364 943	alani@alani-gardens.com
Aquila Development Co	Roses	Naivasha	Prakash Shinde	0710791746	pm@aquilaflowers.com
Bamboo Farm-Sunripe		Nakuru	Reuben	0723920237	
Balaji	Roses	Olkalou	Paul Mwaniki	-	-
Baraka Farm	Roses	Nakuru	Lucy Yinda	-	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
Black Petals	Roses	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
Bloom Valley	Roses	Nakuru	Ravindra		
Blooming Dale Roses Kenya Ltd	Flowers	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms		Nakuru	Shivaji	0720895911	shivaniket@yahoo.com
Carnation Plants	Roses	Athiriver	Ami R.	0733626941	amir@exoticfields.com
Carzan Rongai	Flowers	Nakuru	Nicholas	0721 844361	rongai.production@carzankenya.com
Charm Flowers	Flowers	Athiriver	Ashok Patel	020 352583	ashki@charmflowers.com
Colour Crops	Hypericum	Nanyuki	Kennedy Wanyama		colourcrops@tmu.com
Colour crops	Flowers	Bahati	Patrick Kipkurui		bahati@colourcrops.com
Colour crops Naivasha	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Credible Blooms	Flowers	Rumuruti	Eliud	0722382859	
Credible Blooms	Flowers	Ngong	Eliud	0722382859	
Dale Flora	Flowers	Nakuru	Shivaji	0720895911	shivaniket@yahoo.com
Delemere Pivot	Vegetables	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
Dummen Orange	Flowers Breeders	Naivasha	Steve Outram	0733 609863	s.outram@dummenorange.com
Elbur flora	Roses	Nakuru	Daniel Moge		
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Equinox	Flowers	Nanyuki	Harry Kruger		harry@equinoxflowers.com
Everflora Ltd.	Flowers	Thika	Bipin Patel	0735873798	everflora@dmbgroup.com
Fairy Flowers	Flowers	Limuru	Sylvester	0753444237	sylvesterkahoro@yahoo.com
Fides Kenya Ltd	Cuttings	Embu	Francis Mwangi	068-30776	francis.mwangi@dummenorange.com
Flamingo Holdings Farm	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@flamingo.net
Flamingo Holdings-Kingfisher Farm	Flowers	Naivasha	Charles Njuki	0724391288	charles.njuki@flamingo.net
Flamingo Holdings- Kingfisher Farm	Flowers	Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@flamingo.net
Flamingo Holdings-Siraji Farm	Carnations, Roses	Nanyuki	John Magara/Peris	0729050116	peris.ndegwa@flamingo.net
Finlays -Kericho	Flowers	Kericho	Elijah Getiro	0722873539	elijah.getiro@finlays.co.ke
Finlays -Tarakwet	Flowers	Kericho	Japheth Langat	0722863527	japheth.langat@finlays.co.ke
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	-	-	-
Flamingo flora	Roses	Njoro	Sam Nyoro	0721993857	s.ivor@flamingoflora.co.ke
Flora ola	Roses, Hypericum	Solai-Nakuru	Lucas Choi		floraolaltd@gmail.com
Flora Delight	Summer flowers	Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke



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FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Florenza	Roses	Nakuru	Yogesh	0715817369	
Fontana Ltd-Salgaa	Roses	Salgaa	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd - Akina farm	Roses	Njoro	Mahindra Patil	-	-
Fontana Ltd - Ayana Farm	Roses	Mau Narok	Gideon Maina	0721 178974	gideon@fontana.co.ke
Fox Ton Agri		Naivasha	Jim Fox	0722204816	jim@foxtonagri.com
Frigoken K Ltd	Vegetables	Nairobi	Nicholas Kahiga	0722797547	nicholas.kahiga@frigoken.com
Gatoka Roses	Roses	Thika	-	-	-
Gladioli Ltd		Naivasha	Pieriguichi / Claudia	0722206939	torres.palau@yahoo.com
Golden Tulip	Roses	Olkalao	Umesh	-	-
Golden Tulip (Laurel Inter.)	Roses	Nakuru	Rajendra	-	-
Gorge Farm	Roses	Naivasha	Patrick Mulumu	0722498267	pmulumu@vegpro-group.com
Groove	Flowers	Naivasha	John Ngoni	0724448601	grovekenya@gmail.com
Harvest / Manjo Plants	Roses	Naivasha	-	-	-
Harvest Ltd	Roses	Athiriver	Julius Oloo	-	-
Highland plantations	Cuttings & Herbs	Olkalou	Amos Mwaura	0726726392	production@highlandplants.co.ke
Imani Flowers	Flowers	Nakuru	Raphael Otieno		0722977214
Indu Farm		Naivasha	Wesley Koech	0715546908	
Indu -Olerai Farm		Nakuru	Everline Debonja	0723383160	everlyne.adhiambo@indu-farm.com
Interplant Roses	Roses	Naivasha	Gavin Mouritzen	0733220333	info@interplantea.co.ke
Isinya	Flowers	Isinya	Rajesh	-	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.	Flowers	Thika	Samwel Kamau	0723721748	production@kariki.co.ke
Kariki Ltd - Bondet	Eryngiums	Nanyuki	Richard Fernandes	062-31023/6	bondet.production@karik.biz
Kariki Ltd - Hamwe	Hypericum	Naivasha	Peter Kamwaro	0721758644	hamwe.fm@kariki.biz
Kariki Ltd - Hamwe- Molo	Fowers	Nakuru	Joseph Juma	0725643942	production.fm@kudenga.co.ke
Twiga Flowers	Flowers	Naivasha	pius Kimani	0721747623	pius.kimani@gmail.com
Kenflora Limited		Kiambu/ Limuru	Abdul Aleem	0722311468	info@kenflora.com
kensalt Ltd	Flowers	Solai	Pravin		
Kentalya		Naivasha	Linnat	0733549773	lynette@kentalya.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
Kongoni River Farm - Liki River	Flowers	Nanyuki	Madhav Lengare	0722202342	madhav@vegpro-group.com
Kongoni River Farm - Star Flowers	Flowers	Naivasha	Dinkar	0789487429	dinkar@vegpro-group.com
Kongoni River Farm - Timau	Flowers	Timau			
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
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
Magana	Roses	Nairobi	Lukas	0788695625	farmmanager@maganaflores.com
Mahee / Mwanzi Flowers Ltd	Roses	Olkalou	Srinivasaiah	0711368756	sriini@eaga.co.ke
Mahee Wilham	Vegetables	Nakuru	Rao Venkatesh	0754444629	maheevgef@eaga.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
Millmet/Tindress Farms	Flowers	Nakuru	Pravin		pravinyadav.29@gmail.com
Molo Greens	Flowers	Nakuru	Justus Metho	0722 755396	justus@mologreens.com



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FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Mt Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395,	bob@mtelgon.com
Mweiga Blooms	Flowers	Nanyuki	Stewart/ Mburu	0721674355	mweigablooms@wananchi.com
Mzuurie Flowers - Maji Mazuri	Flowers	Eldoret	Mark Juma		
Mzuurie Flowers - Molo River Roses	Flowers	Nakuru	Andrew Wambua	0724256592	awambua@moloriverroses.co.ke
Mzuurie Flowers - Winchester Farm	Flowers	Karen	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Mzuurie Flowers - Bahati	Flowers	Bahati	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Nini Farms	Roses	Naivasha	Philip Kuria	0720611623	production@ninitd.com
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
Ol 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@oserial.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	-
United Selections	Roses	Nakuru	-	-	-
Pj Dave	Flowers	Isinya	Simiyu	0723500049	pjdavetimau@pjdaveepz.com
Pj Flora	Flowers	Isinya	Palani Muthiah	0752607651	muthiah.palani1971@gmail.com
Pj Flowers Ltd		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	Vivek Sharma	-	porini@isinyaroses.com
PP Flora	Roses	Nakuru	Robert /Prakash	0718045200	ppflora2010@gmail.com
Primarosa Flowers Ltd	Flowers	Athi RiVer	Shantaram	-	-
Primarosa - Zuri Farm	Roses	Olnjorok	-	-	-
Racemes Ltd		Naivasha	Bonny	0721938109	bonny@kenyaweb.com
Rain Forest	Roses	Naivasha	-	-	-
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 Mutua	0722357678	richard@rimiflora.com
Riverdale Blooms Ltd		Thika	Antony Mutugi	0202095901	rdale@swiftkenya.com
Roseto	Roses	Nakuru	Arvind		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	Ashesh Mishra	-	-
Schreus	Roses	Naivasha	Haiko Backer		
Shades Horticulture	Flowers	Isinya	Mishra	0722972018	info@shadeshorticulture.com
Shalimar Flowers	Flowers	Naivasha	Anabarasam	0733604890	anbarasan@eaga.co.ke
Sian Roses - Maasai Flowers	Flowers	Isinya	Andrew Tubei	0722728364	atubei@sianroses.co.ke
Sian Roses - Agriflora	Flowers	Nakuru	Clement Kipnetich		cngetich@sianroses.co.ke
Sian Roses - Equator Roses	Flowers	Eldoret	Charles Mulemba	0721311279	cmulemba@sianroses.co.ke
Sierra flowers Ltd	Flowers	Nakuru	Sherif	0787243952	farm.sierra@megaspingroup.com
Simbi Roses	Roses	Thika	Karue Jefferson	067 44292	simbi@sansora.co.ke
Sirgoek Flowers	Flowers	Eldoret	Andrew Keitany	0715 946429	sirgeok@africaonline.co.ke
Solai Milmet/Tindress	Flowers	Nakuru	Ravindra	0788761964	tindressmilmet@gmail.com
Subati Flowers- Nakuru	Flowers	Nakuru	Naren Patel	0712 584124	naren@subatiflowers.com
Subati Flowers - Naivasha	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
Tambuzi	Roses	Nanyuki	Paul Salim	0722 716158	paul.salim@tambuzi.co.ke
Syngenta Flowers - Kenya Cuttings	Flowers	Ruiru	James Ouma	0725217284	john.odhiambo@syngenta.com
Syngenta Flowers - Kenya Cuttings	Flowers	Thika	Kavosi Philip	0721225540	philip.munyoki@syngenta.com
Syngenta Flowers - Pollen	Flowers	Thika	Joseph Ayieko	0733552500	joseph.ayieko@syngenta.com
Timafloor Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timafloor.com



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FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
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@uhuruflowers.co.ke
V.D.Berg Roses	Flowers	Naivasha	Johan Remeeus	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	-	-	roses@wildfire-flowers.com
Wilmar Agro Ltd	Summer Flowers	Thika	Alice Muiruri	0722 321203	alice.muiruri@wilmar.co.ke
Windsor		Thika	Vikash	073705070	vikash@windsor-flowers.com
Xpression Flora		Nakuru	Mangesh Rosam	0720519397	mangesh.rasam@xflora.net
Zena -Thika Farm	Roses	Thika	-	-	sales@zenaroses.co.ke
Zena - Asai Farm	Roses	Eldoret	-	-	sales@zenaroses.co.ke
Zena Roses - Sosiani Farm	Roses	Eldoret	Phanuel Ochunya	-	sales@zenaroses.co.ke
Zena - Nakuru Farm	Roses	Nakuru	-	-	sales@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@ucil.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- Zirobwe 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	mnpatilpune@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@herbugroses.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



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