

March - April 2017

THE LEADING FLORICULTURAL JOURNAL IN THE REGION

# FLORICULTURE

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A large, long greenhouse with a curved metal frame and translucent plastic covering. The interior is filled with rows of green rose bushes, many of which have bright red buds and some open flowers. The perspective is from a low angle, looking down a central aisle between the rows of plants, which recede into the distance. The lighting is bright and even, suggesting a well-lit indoor environment.

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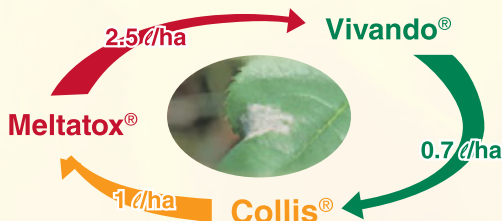
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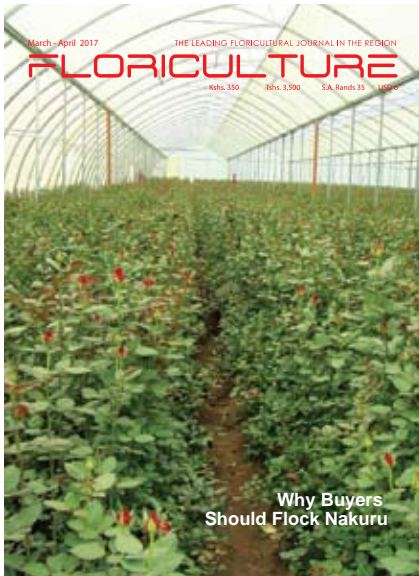
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## The Leading Floriculture Magazine

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## Happy 17th Birthday Floriculture

*Greetings to all. It's great to have you here.*

*Most of you know my feeling on birthdays. Generally I say, what's the big deal? So why are we here?*

*It's not to celebrate the inevitable passage of time but something more. Everyone has birthdays but not everyone is my friend, **Floriculture**. **Floriculture**, you are unique. And today I'm gladly putting aside my grumbles about birthday to honour you.*

***Floriculture**, you've attained 17 Years. And I've known you all through. Are you aware that the flower sector has grown from the less than 1,500ha at your birth to slightly above 3,000ha. You have seen it double. Are you aware you have two siblings, **Floriculture Directory** and **Cereals Magazine**?*

*Let me tell you a short story. I have just dropped a call from **Anampiu Kithinji** before this congratulatory editorial. Immediate after the call, **Victor Juma** surfaced, we had a tete-a-tete. We gossiped **Francis Karanja** and **Anampiu Kithinji**, who are back together after over ten years of professional separation. Last time I met **Tom Ochieng**, **Charles Njuki** and **Wilfred Munyao** at Deruiters, they were together. Distance cannot separate them. **Gitari Kirigia** is no longer a grower but we are still very close. These are the great men who sat together and midwived you and still yearn to know how you are doing.*

***Floriculture**, you're a touchstone in my*



*life. For 17 years we've stood by each other through the good as well as difficult, challenging times. I value your opinion. I value the way we can agree to disagree and still count each other as friends. I annoy you with my persistence which some might call stubbornness. I could go on but because I want to preserve what's left of our friendship and myself, I won't. They say, looks can't kill but the one you're giving me now seems murderous. So before I'm forcibly shut-up, I'll do it myself.*

*Masila Kanyingi  
Editor*



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1 Egg

1 Mite

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# Critical Issues in Plant Nutrition in Floriculture



*In my line of work I visit hundreds of flower farms a year; the flourishing, the ticking over, and the ones in dire straits. 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 writes **Ruth Vaughan, Technical Director, CropNuts***

**M**y 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.



**A flourishing crop from a farm that diligently checks their soil & water, & sticks to the basics.**



**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



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**A very sad crop that got too much of “a good thing”.**

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 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!

***The writer is the Technical Director, CropNuts***

# AgriLogistics and e-Agriculture

## East Africa Summit Links Farmers to Technology

**K**enya should take lead in the global flower sector markets and Innovations. This was said by Mr Jeroen Van der Hulst, Director, FlowerWatch and a global expert in monitoring and ensuring the quality and vase life of fresh-cut flowers. He said it while addressing delegates at the AgriLogistics East Africa Summit. “Kenya’s flower production is ten times bigger than the Dutch industry, so what makes them not to shape the sector?” he asked.

In his presentation, Mr Jeroen emphasized on the last mile of the product. He confided to delegates that if growers would ensure quality pre-market handling then Kenya would take its position as the leader in flower sector. “Vase life is a key concept in the whole flower chain, from grower to consumer – the goal being to enable consumers to enjoy each bouquet of flowers they buy for as long as possible, and for at least ten days. “Our sector-wide benchmark proves that vase life losses are no longer unavoidable”, he said.

After harvesting, flowers are subject to many factors that influence vase life. Storage, transferral and transportation must be carefully planned. Factors such as time and temperature are crucial in the ageing process, and therefore the quality, of flowers.

Addressing the same summit, Ms. Jane Ngige, the Kenya Flower Council CEO said, “Everyone who works with fresh flowers knows they need to be kept cool. And everyone involved in fresh flower supplies works hard to ensure that. However, few supply chains seem to succeed in keeping flowers under consistently optimal conditions all the way from farm to florist. There is need to improve the cold chain performance and in turn extend



**Jane Ngige CEO KFC**

the vase life of the flowers”. She said KFC had introduced stricter standards to ensure flowers get to the customer in the right temperature. Ms. Ngige also said growers in Kenya, Ethiopia, Tanzania, Uganda and Rwanda were in discussion on how Kenya could be made the global flower hub. Speaking on the same, KEBS representative said the standardization body had introduced KS1758 for floriculture and horticulture to ensure their final quality is great.

Growers need to learn the different supply chains to ensure the product gets to the market at the right temperature. It is not in Kenya alone but globally, Mr. Jeroen quoted an Australian customer who told a Dutch exporter that his flowers got to the market in an higher temperature than Kenyan. Besides that, they will also be prepared for new markets with a longer cold chain. All of this will be learned through practical vase life samples.

### Challenges

The major obstacle facing the region’s agri sector is the use of innovative ways to utilise technology for improved production and increased productivity. E-agriculture offers a wide range of solutions to agricultural challenges and has great potential in promoting sustainability in the region.

The Agri Logistics East Africa Summit and e-Agriculture East Africa summit brought together innovative e-agriculture solutions for preventing post-harvest losses, improve production and increase productivity to improve the supply chain process from farmer to market and to enhance food security in the region.

### Ports

Ms Nozipho Mdawe, Secretary General, PMAESA Kenya, a non profit making intergovernmental organisation made up of port stakeholders in the region (Eastern, Western and South Africa and the Indian Ocean) told the summit that they are out to strengthen port relations among the member ports. “We offer frame work for the exchange of ideas among our members and create enabling environment whereby members can interface with one another in the port, transport and trade arenas”. PMAESA works towards improving conditions of operation and management of ports in its region of coverage with a view to enhancing their productivity.

### First Mile

Most of the speakers agreed that the main challenge was in the first mile where farmers are unable to transport their produce from the farm to central collection zones. This has led to serious post harvest losses which if checked can double their income.

### Match Making

Business people and other stakeholders are busy with minimal valuable time. This leaves them with minimal time to network with the people they would like to. Organisers of the summit offered a matchmaking service to the delegates. Arranged in advance delegates had one-on-one meetings with relevant solution provides attending the event.

# Kelp Based Plant Growth Stimulants- Science Or Snake Oil?

“A plant hormone is an organic compound synthesized in one part of the plant and translocated to another part, where, in very low concentrations, it causes a physiological response”.

## Introduction

There are a number of biochemical factors which determine the growth and sustainability of a plant. These include: Fertilizer, Water, Sunlight and Hormonal Stimulation.

The plant is fed by trapping of sunlight and combining it with water and oxygen to produce a carbohydrate. Combined with elements drawn through the root system from the soil, this allows the laying down of cell structures and the movement of nutrients through the plant. The stimulation of root or growing point growth has been shown to be largely hormonal from three primary groups-auxins, cytokinins and gibberellins.

Some species of kelp are among the fastest growing plants in the world. While most seaweed extracts are fertilizer supplements based on significant levels of minerals, the “cold cellular burst” method of extraction, pioneered and patented in south Africa and available as “Kelpak”, has been shown to maintain quantities of hormones of a specific fast growing Kelp *Ecklonia maxima* at their natural level.

There are a number of publications that have reported improved performance in plant growth and yield where seaweed products are used. However unfortunately the inconsistency of these results together with a failure to understand the mode of action and methodology of use has resulted, at times, in the seaweed group being reduced to the category of “snake oil” in some quarters. The particular method of extraction called “cold cellular burst” used in the manufacture of Kelpak has risen well above this consistency problem with its gentle non-chemical, non temperature dependent method of rupturing the cell and spilling out the contents followed by a carefully designed separation process to ensure that only the active growth promoting portions are used. It is unfortunate that customer perception has failed, at times, to differentiate between these products however it could be expected that usage will clearly demonstrate the consistent performance of a naturally occurring blend of auxins and cytokinins (as present in Kelpak)

## Hormones in Plant Growth

### Cytokinins

Cytokinins are manufactured in the root tips of plants and are then transported in the xylem to all other parts of the plant, accumulating, in particular, in the young leaves, seeds and fruits. The major function of cytokinins is to promote cell division and hence it is seen as a promoter of new growth.

### Auxins

Auxins are synthesized by the plant in young leaves and growing points and then moved downwards through vascular bundles towards

the roots. Transport is slow at a round 1cm per hour. Removal of young leaves, buds and meristem tissue from the growing points has been shown to inhibit the number of lateral roots formed. This root growth can be restored by the additions of small amounts of auxins.

## What Is Kelpak?

### What does it do?

Kelpak is designed as a companion product to be used with a suitable fertilizer regime in the stimulation of root growth and the consequent uptake of nutrients from the soil. It has also been shown to change the stem cells in cereals plants making them more robust and resilient to bending or “lodging”. This increased resilience of plant and root cells, documented for wheat is likely to have other potential benefits in resistance to stress and disease. This has been reported in the turf industry by way of resistance to nematode damage in particular. In horticulture, significant increases in production have been reported presumably due to promotion of growth point growth and increased nutrient uptake by large root systems. Increased shelf life of tomatoes has also been reported.

### What is “Cold Cellular Burst”?

There are a number of processes that have been employed in the digestion or preparation of extracts from seaweed sp. Over many years.

- The use of caustic solutions on dried material to break down the rubbery cell walls of seaweed and expose the contents for uptake by the plant
- The use of heat to liquidize and breakdown the dried seaweed into a liquid, which can be applied
- The use of extreme cold to make the cell walls brittle, followed by pressing through rollers, causing the crystals formed during freezing to frustrate the cell structures and release the contents
- The use of pressure on fresh material to compress the cells in the absence of air or water followed by a sudden release resulting in a rupture of the cell walls and release of the contents. This is termed “Cold Cellular Burst” and was developed and patented by the developers of Kelpak in South Africa.

The first three methods above all result in the loss of all or most of the auxins within the resultant extract due to their delicate nature. The last method retains the concentrations of auxins (and cytokinins) at their “as growing” level and therefore gives this method (developed and patented by kelpak) a unique balance that can provide the stimulation to root growth that is desirable in increasing nutrient uptake and plant vigour.

### Why is it different?

Kelpak is an extract from the species *Ecklonia maxima* and uniquely maintains the balance

of cytokinins and auxins seen in that plant. Auxins are relatively delicate biochemicals and are easily destroyed during drying, heating, freezing or chemical extraction. For this reason levels of auxins are relatively low in traditionally manufactured seaweed based fertilizer products. However kelpak contains a level of 11g/litre of auxins and 31µg per litre of cytokinins.

A number of auxins and cytokinins have been identified in Kelpak and the role of each of these or the importance of synergistic effects of the ratio between these components is not fully understood. However a large volume of work has been carried out on kelpak as a naturally occurring blend of these hormones which demonstrated a range of uses of kelpak as an adjunct to a suitable fertilizer regime.

## Use in Turf

Evidence from work carried out by the NZ Turf Research Institute and at Bowling Clubs on the central coast of NSW has indicated the following results from the use of kelpak in conjunction with a standard fertilizer regime:

- Increased and more vigorous root system
- More rapid recovery from stress
- Increased resistance to nematode infestations

Seaweed extracts are not nematicides, however cytokinins are found at low levels in the root systems of turf infested with nematodes. Therefore it has been reported that increasing the level of cytokinins in turf infested with nematodes inhibits larvae penetration and retards nematode development within the root system. It has been reported that using molasses or sugar in conjunction with kelpak can be a successful adjunct to a nematode control program.

## Conclusions

Hormones play a potentially significant role in the growth of plants, their ability to take up nutrients and their resistance to pests and disease. Current knowledge indicates that not only the gross amount of each stimulant is important but their ratio to each other.

The extraction process from most seaweed products destroys or minimizes the level of the most sensitive hormone group- the auxins. Therefore unfortunately many terms of growth stimulation and claims for these products have been difficult to realize in practice for this reason.

However the cold cellular burst method of extraction appears to have overcome this problem and maintain levels and ratios of cytokinins and auxins in the resultant extract-Kelpak. Trial work on many species has indicated positive results in terms of root growth, resistance to lodging and disease and production.

**Courtesy of Organix Ltd**



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# The Power-Conscious Farmer

By Wycliffe N. Sovari

**T**echnically speaking, “power” is the ability to do work .....it all started with the invention of the bulb, we had the telephone by Alexander Graham Bell (18th CENTURY) and since time immemorial; Electronics and Electricity are part and parcel of man’s life all over the globe. Engineering, technology, innovation, applied science and agriculture are thus interdependent and inseparable in our normal day-to-day activities.

Narrowing down to Power as a utility in farming and for that case electricity we really need to check on the merits and demerits as farmers and see how best and cheaply we can utilize power?

In our discussion we shall compare and advice the now; “Power-conscious farmer” on HEP (Hydro-Electric Power), Solar Power, Geothermal, Biogas Power and a little hint on rarely discussed sources such as Nuclear power. Nevertheless, our concentration will feature mostly on natural and renewable sources of energy because of their natural abundance and economics of operation.

## Hydroelectric Power

Hydro Power is simply Energy from falling water; dams mostly along a river course are

built to trap water. The gravitational Potential energy stored in overhead water is channeled through specially constructed pipes. Through this movement the pressure in water and speed is used to rotate giant turbines, the turbines turn the rotary generators that feed electrical generators to power control instruments such as transformers for transmission into the national grid system.

## Merits

1. Environmentally friendly thus a non-pollutant unlike fossil fuels.
2. It is renewable.
3. It is Cheaper and renewable because of constant generation of electrical power.
4. Farmers can incorporate fishing and water-sporting activities as extra-income generation on the dam.

## Demerits

1. Initial implementation cost of switchgears and design is expensive.
2. It is automatic that people will be displaced to pave way for a mega H.E.P project.
3. Scarcity of suitable location is a major hindrance to H.E.P power production.
4. Major health hazards such as bilharzia and malaria arise due to stagnation of water .

## Solar Power

There is plenty of free sunshine and we should just admit that solar is a key natural source of energy in Africa and countries lying within the tropics.

To achieve this; solar energy technology for both small and large scale are applied. The farmer therefore generates electrical energy by use of solar cells. The engineers technically call them PV cells or simpler “photo-voltaic” cells. This special arrangement of billions of cells on a panel convert light directly into electrical energy through semi-conductor principles of conduction and emission of electrons.

## How Kenya has become a Geothermal Superpower

Oserian’s 200-hectare farm in Naivasha produces 700,000 flowers daily. Oserian is also leading change in the country’s energy sector, by running its operation largely on geothermal power. The company pipes steam from the ground to heat a water recirculation system that maintains its mighty greenhouses.

“Before we had diesel generator back ups,” says Engineering Manager of the Oserian Development Company. “Our electrical savings are probably \$750,000 a year.”

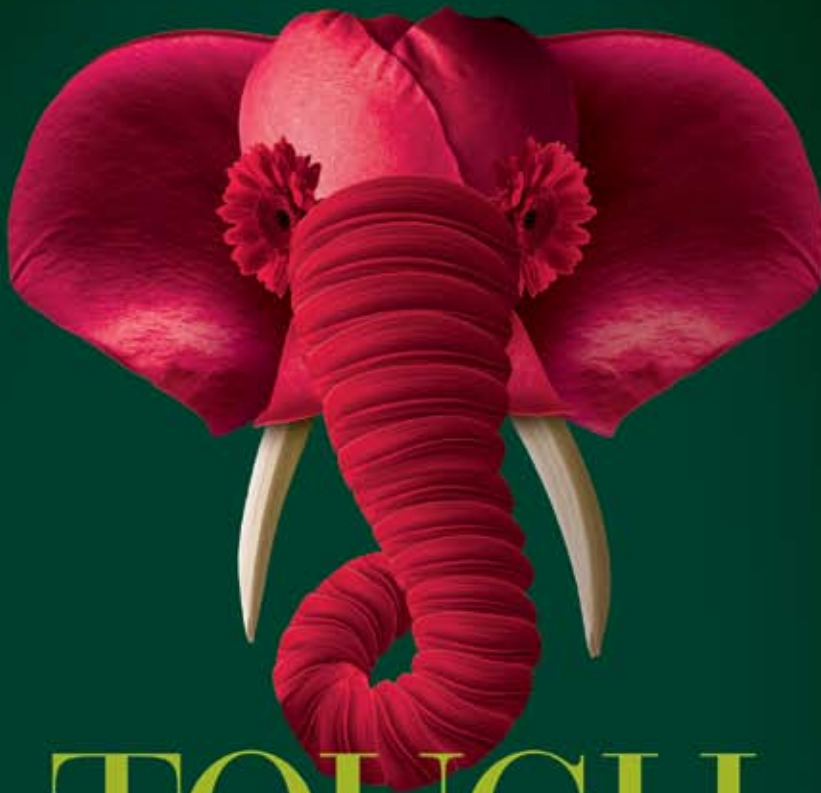
## Field of steam

The Olkaria field just outside Nairobi is the nation’s largest geothermal operation. The site is estimated to contain 1,000 megawatts of power that could supply much of the Kenyan population’s needs.

“We have a program to drill as many wells as we can,” says geologist Victor Otieno. “There are still areas within the geothermal field which have not been fully explored.”

“Geothermal is very capital intensive because you have to drill the wells to get the fuel -- the steam. But once you connect the wells to the power plant then you are ok. It’s a very small cost in terms of running.”





# TOUGH BUT FRIENDLY

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**Solar Panels at Timaflo Ltd**

**Advantages of Solar**

1. Very economical, sunshine is free!
2. It's a reliable alternative source of electrical energy
3. Running and operational costs are very much low in comparison with "fuel-based" sources of electrical energy i.e Petroleum
4. No environmental impact. No fuel is burned in the process of converting solar energy into electricity. There are no greenhouse gases produced.
5. No air pollution
6. No water pollution
7. No impact on land resources
8. Energy costs: Solar energy processes have been dropping (approximately 60% since 2012). Improved production techniques and solar cell efficiency guarantee future cost reductions,

**Disadvantages of Solar Energy**

1. Sunshine is available only at daytime  
**Solution:** Solar back-up batteries are utilized and therefore provide 24-hour controlled power for utility
2. The initial installations cost are high  
**Solution:** This argument is dependent on the size of the project. But with economies of scale applied, more units translate to cheaper "per-unit " of solar panels procured.
3. Dependent on weather conditions  
**Solution:** Therefore it is very much advisable that solar panels are utilized in areas with sunshine prevalence during most seasons of the year.



**Biogas : Storage tank**

**Biogas Power to Run Flower Farm**

A commercial farm in Kenya has become Africa's first electricity producer powered by biogas to sell surplus electricity to the national grid, cutting the carbon emissions associated with oil-powered generation.

The Gorge Farm Energy Park in Naivasha produces two megawatts (MW) of electricity — more than enough to cultivate its vegetable and flower farms, and with sufficient surplus to meet the power needs of 5,000-6,000 rural homes.

"The Gorge Farm plant is physical proof that locally produced feedstock can be used to generate clean and cost-effective power for all Kenyans," said Mike Nolan, Chief Operating Officer at Tropical Power, a developer of biogas and solar plants in Africa.

**Slashing Diesel Use**

The plant produces biogas through anaerobic digestion, a process in which crop residue from the farm is digested by micro-organisms. The biogas produced is burned in two engines, producing both electricity and heat in a process called cogeneration.

Producing the same amount of energy using diesel would require 5 million litres of fuel annually, Nolan said, plus the extra fuel required to transport the diesel inland from the port of Mombasa.

Tropical Power said the biogas plant contributes to a nearly 8,000-ton reduction in carbon dioxide emissions per year, since the farm does not have to use electricity from the grid produced by oil-fired power stations.

There are further benefits, according to Tropical Power's Nolan. The 55,000 tons of Gorge Farm's residue that can be used annually for biogas can produce nearly 40,000 tons of a natural fertilizer by-product.

"That can be used to improve the crop yield of local farms, displacing synthetic fertilizer," he said.

Nolan said that Tropical Power's experience with the grid operator has been straight forward. "Our site is located very close to the grid interconnection point and so engineering challenges were minimized," he said.



## Biogas/Biomass

### (i) BIOMASS

Waste plant matter is used as fuel either directly as in the case of bagasse from sugarcane burnt to be utilized for steam engine electricity production

### (ii) BIOGAS

Alternatively the same organic farm matter can be decomposed under special underground sewer tanks with mixture such as animal waste (dung and urine) from animal farms....The output of the decomposition of organic matter by bacteria action is biogas (mainly Methane CH<sub>4</sub>) Methane readily burns when lit and thus is utilizable for cooking/heating water activities in the farm households. The remaining dry matter is now one of the best naturally "treated" manure now used by farmers to add nutrients to the crops.

### Demerits of Biomass/Biogas Power

Biogas creates harmful emissions such as Carbon (IV) Oxide and Sulphur. The emissions are key contaminants to the Ozone (O<sub>3</sub>) layer that shields unwanted U-V rays from penetrating the atmosphere.

### Geothermal Power

At a glance, Geographically; where underground water meets magma (hot molten rocks); hot springs which when uncontrolled form geysers which are pressurized, naturally formed, water-filled pits that recurrently boil and spurt very hot water ....An example are the sites near Lake Bogoria and LAKE Naivasha along the Riftvalley basin in Kenya.

By keen analysis it is important to note that Geothermal power is an expensive investment but quite sustainable citing examples like KENGEN at Olkaria Generating station that feeds the National grid system with Power.

### Advantages of Geothermal

1. It is economical since steam is natural
2. Is a reliable source of energy.
3. Is a renewable source of energy.

### Disadvantages of Geothermal

1. Emission of sulphurous gases
2. Cases of acid rain take place due to air contamination
3. Global warming is accelerated due to emission of greenhouse gases.

## River to power Mount Elgon Orchards

Mount Elgon Orchards' farm will be running on hydro electrical power soon. They just started with the construction of the plant and hope to have it ready by August 2017. In the end, the plant will enable them to become 95 percent self-sufficient. The remaining energy needed will be complemented with solar energy or energy from the grid, that will be complemented with power generators. "In the end it can save us up to 400,000 USD per year", says Bob Andersen, owner of this the who currently grows roses on 38ha and sells them as The Elgon Collection.



Mr. Bob Anderson in his Mt. Elgon Orchards farm

farm. "As long as there is rainfall and the river is running, the energy supply is quite stable." In the end, they hope to save up to 400,000 USD per year.

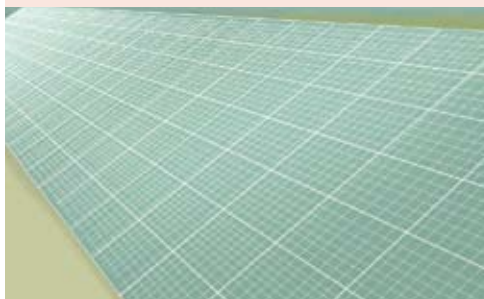
### Saving Costs

The main reason for starting up this hydroelectricity plant is to save costs. "Since the establishment of this farm in 1991, we have burned over 10 million litres of diesel running through power generators", says Andersen. So in order to save costs, they started to look for alternatives and generating hydroelectric power seemed to be one of the best options. "Once built, it is cheaper than solar panels and is more reliable than the energy from the grid." However, in order to generate hydroelectric power, water is needed and fortunately Mount Elgon Orchards has plenty of it as a river is running through their

### Self-sufficient

After a current expansion, the farm will need around 300 kilowatt of power a day and 150 at night. The hydroelectric plant will generate 300 kilowatt of energy and will enable Mount Elgon Orchards to become 95 percent self-sufficient. "Nine months a year, we will use the energy that has been generated from the river and in the dry season or when the demand outstrips the supply, we will use a combination of solar energy and energy from the grid, complemented with power generators", says Andersen.

## Red Lands Go Solar



### Solar Panels at Red Lands

For Red Land Roses, the owner of the solar installation, this represents a 30% savings on its bill. But those are not the only virtues of the project: in fact, being its own electricity producer, stabilizing a portion of its supply, and knowing the cost per kW for the next 20 years to come, allows the company to

control its energy expenditures over the long term. Other motivations drove Red Land Roses to invest in solar power as well. Having always been conscious of environmental issues, they opted for a sustainable horticulture with, in particular, the installation of a water recycling system, and is convinced of the ecological benefit to producing carbon-free electricity on site.

Urbasolar carried out the engineering, development, and construction of this ground-mounted power plant which is associated with parking canopies. Chosen for its expertise, it is above all the quality of its solutions for self-consumption hybridized with diesel generators that made the difference.

# “Bringing Colour to the Lives of Children and Communities”

## Dutch Flower Foundation supports Local projects in Africa

**T**he 30 Dutch Flower Group companies operate worldwide, including in Kenya, Zimbabwe, Ethiopia and Uganda. This globally operating horticulture concern from the Netherlands is keen to put something back in the local communities in areas where they operate. When Dutch Flower Group was established in 1999, the management board immediately set up its own foundation, through which Dutch Flower Group supports a range of local projects, including in Africa. “The establishment of Dutch Flower Foundation ensured that from the start in 1999 we were able to support projects financially,” according to Dutch Flower Foundation’s chairman Boudewijn Rip. “We do this mainly in areas where the growers we work with are situated. We also support projects in areas where Dutch Flower Group companies are situated and in regions where our employees live.”

### Professional organisation

In the past two decades the Dutch Flower Foundation has grown into a professional organisation, consisting of a board of 5 persons, employed by companies within Dutch Flower Group. The board members are Boudewijn Rip (Dutch Flower Group and director at SuperFlora), Claudia de Wit (Hamiplant), ElfriedaPenders (OZ Planten), Mariëlle van Veggel (Dutch Flower Group) and Wencke van Renssen (Green Partners).

The Dutch Flower Foundation’s funds are

provided by the 30 companies within Dutch Flower Group. Clients also contribute to the Foundation, which in organisational terms is separated from the commercial activities of the Dutch Flower Group companies.

### Making social contributions

“In addition to the business side of our collaboration with growers in Africa, we feel it is important to make a specific social contribution to local communities,” says chairman Rip. “We are therefore pleased that more and more parties approach us for support of structural projects in areas where we work closely together with our customers and our growers. If it concerns specific projects, where children are the most important target group and it concerns an organisation run by volunteers, we are happy to make a substantive contribution through our Foundation.”

### Overview of supported projects

In 2016 the projects supported by the Foundation in Africa included:

- contribution to baby house, Nafasi Welfare Home (Uganda)
- donation for construction of a vegetable garden for Village 16 (Zimbabwe)
- contribution to nutritional centre, Umutima Foundation (Zambia)
- contribution to nursery school, Beautiful Kids Namibia (Namibia)
- contribution to AMREF Flying Doctors via African Classic (Tanzania)
- new kitchen for Sibusiso Foundation (Tanzania)

- contribution for irrigation of botanical garden for Dreamcatcher (South Africa)
- contribution to orphanage in Pietermartizburg (South Africa)
- financing of Amboseli Noonkotiak Grassbank and reseeding project with Just Diggitt (Kenya)
- the construction of a sanitary building at the Childrens Shelter Home (Ngong, Kenya)
- new kitchen for St. Paul’s Children Home (Kenya)
- construction of houses together with Habitat for Humanity (Kenya)

By contributing to these projects, the Foundation has donated almost € 60,000.00 for the improvement of the living conditions of children and communities.

### More publicity

“We would like to generate more publicity for Dutch Flower Foundation,” explains Rip. “This is one of the reasons we have created a new recognisable logo. The logo symbolises that we, right from our hearts, want to make a contribution to those who need it most. We would therefore like to call on initiators of projects to contact the Dutch Flower Foundation.”

The application form and further information about Dutch Flower Foundation is available on: [www.dfg.nl/en/dutch-flower-foundation](http://www.dfg.nl/en/dutch-flower-foundation)

Dutch Flower Foundation: bringing colour to the lives of children and communities.

Project - Kitchen (St. Paul's Childrens Home)



Project - Africa Classic (AMREF)



Project – sanitary building (Child Shelter, Ngong)





## Understanding Nakuru Region

Land	: Available
Altitude	: 1800 - 2600m
Rainfall	: Moderate well spread
Climate	: Relatively warm year round
Soil	: Virgin fertile land

## Current size (Approximately)

Nakuru West:	- Roses 495 - Summers 180
Nakuru East:	- Roses 334 - Summers 36

## Expansions (Approximately)

2016	: 50ha roses
2017	: 35ha
2020	: 150ha

## Varieties :

- Small heads 1800-2100m
- Big heads 2200 - 2700m

**Market :** - Largely Direct

## Main challenge:

- Thrips, Powdery mildew, downy mildew, Botrytis

## Roses With Altitude: Why Buyers Should Flock Nakuru



**Mr. Andrew Wambua, General Manager Molo River Farm**

**Y**ou might think of Nakuru as an ultimate “Cereal region” by victim of being the Kenya’s biggest producer of barley and wheat, but over the past one decade it has become famous for a rather more fragrant crop.

Nakuru is the country’s second-largest exporter of cut flowers, 80 per cent of which are roses. It is an industry that employed about 35,000 people and generated about 25% of flower business last year.

comes down to its latitude: only on the equator, so the story goes, do roses grow perfectly straight. But, attractive though it sounds, this is a myth, according to researchers. “Nakuru is a great place to cultivate roses, but they are no straighter,” says Mr. Andrew Wambua, General Manager, Molo River Farm. “The real advantage is that you get natural light all year round, so you can grow anytime and don’t have to use a lot of artificial illumination.”

2,200 and 2,700 metres for big heads. This too has a significant impact. “Roses grown at high altitude have a much longer growing cycle than those cultivated at sea level, up to 15 weeks as opposed to eight, so it is perfect for long-stemmed varieties with big heads,” says a grower. “The cold nights mean that you get a lot of bicolours, with contrasting hues on the edges and the insides of petals, which are very sought after in certain markets.”

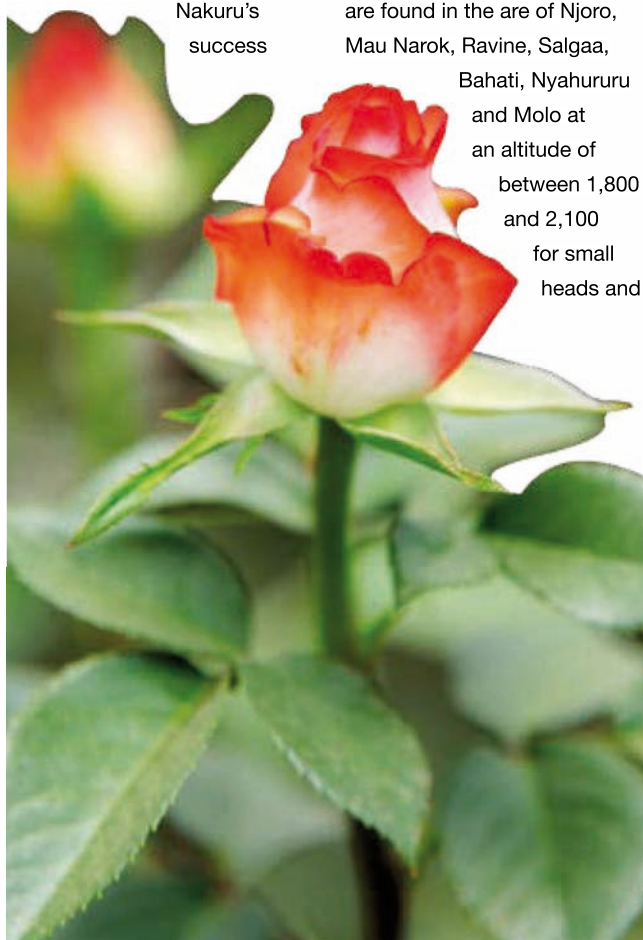
According to generated stories, Nakuru’s success

Most of Nakuru’s rose farms are found in the are of Njoro, Mau Narok, Ravine, Salgaa, Bahati, Nyahururu and Molo at an altitude of between 1,800 and 2,100 for small heads and

The growth of Nakuru’s floriculture industry was kick-started in 1990s by the Sian Group and Suera Flowers. Today all the main growing and exporting flower groups and companies have farms in Nakuru with an exception of maybe five. Marking their presence is the Sian Group, Mzurrie Group, Megaspring group, Xpression Flora, Spin Knit, Fontana group, PJ group, Subati, Carzan group, Kariki group among many others. Looking at the list one will agree that “who is who” in the flower industry is well represented in the region.

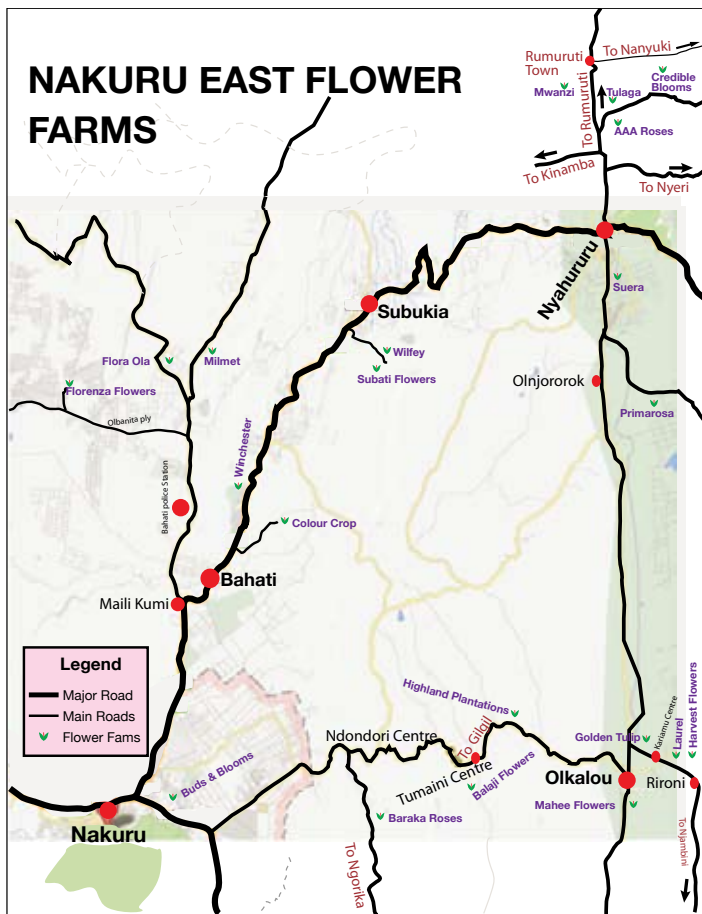
### Buyers should Visit

If you are a flower buyer, then, next time you visit Kenya, it may be to your advantage you visit Nakuru. I may not give you the clearest picture of rose growing but be sure to find state of the art projects planting the best varieties using



“

Although Lake Nakuru National Park is a haven for wildlife of all sorts, it’s the flamingos that have earned it its fame.



**Map of Nakuru East farms**

the newest technologies and best agricultural practices. As one of the growers summed, “In Nakuru God grows Flowers, we only manage”. For the last 17 years as the *Floriculture editor*, I have toured almost all the farms and composed some exciting stories. I cannot enumerate all but below are excerpts picked randomly without any order of uniqueness but for the purposes of enriching the article from my previous articles on a few of the farms.

**Agriflora Kenya Ltd**

It is one of the Sian Roses farms and is situated in Njoro, 20km west of Nakuru town at an altitude of 2,150m above the sea level. The farm was established in 1995 and has consistently been growing and

exporting roses and calla lilies (*Zantedeschia*) since then. Sian has embraced biological controls as part of the integrated pest management strategy. The process has helped in the reduction of environmental and economic risks by promoting low-cost pest managements as a result of reduced use of chemicals and fertilizers, thus makes it an ecologically friendly option. The farm has also invested millions in their CSR program and helped the surrounding community.

**Fontana Group**

Fontana Ltd is a group concentrated on growing the highest quality roses. The group consists of four farms namely: DIYA – This is the mother farm located in Salgaa an altitude of 1950m. AKINA – The smallest of the four farms’ it is based

in Njoro an altitude of 2300m. AYANA – The farm is based in Mau Narok and is has the highest altitude of 2600m. ALISHA (Mau Flora Ltd) The newest farm is based in Molo at an altitude of 2400m. Collectively, Fontana Ltd has over 100 hectares under greenhouse growing over 30 varieties from globally known various breeders. Each farm has its own propagation producing high quality grafted and t-budded plants.

The group is committed to consistently produce roses of the highest quality, by keeping up to date with the latest production techniques, ensuring strict quality control, and taking utmost care in handling the valuable produce to ensure roses meet the high expectations of their consumers.



**Fontana group in a flower Expo**

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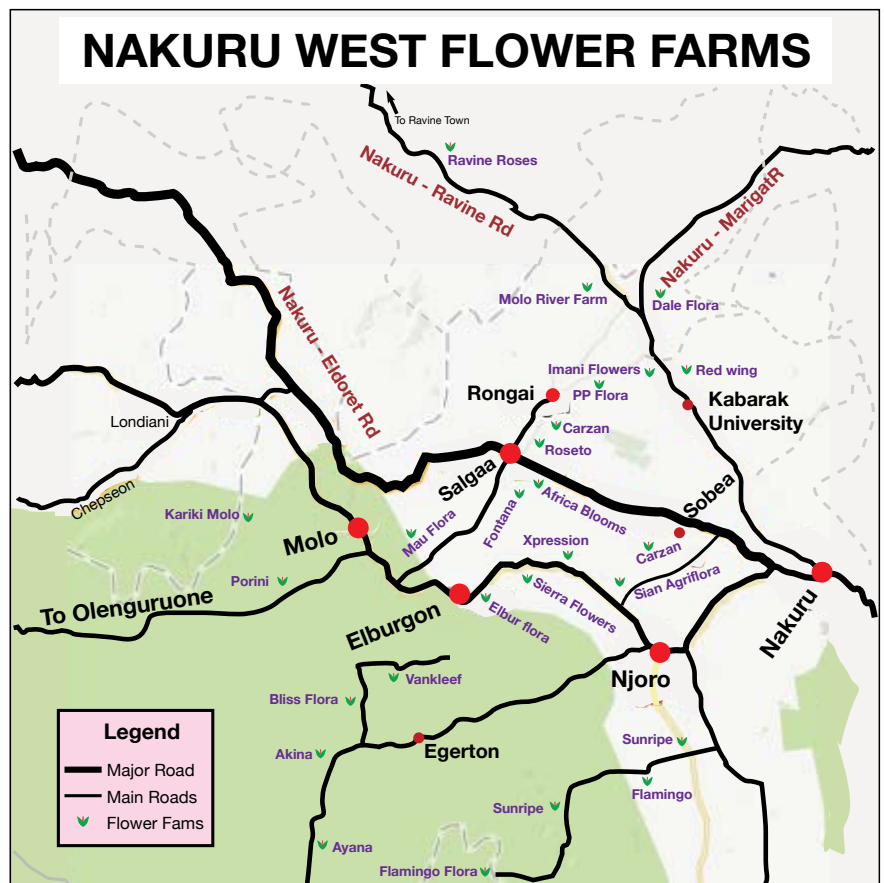
## Main Story

### Bliss Flora Limited

The farm was started in 2011 at an altitude of 2375m. The initial project was 20 hectares currently standing at 35 hectares with a possibility to grow. It is a sister company to Buds and Blooms which began operations in 1994 in Nakuru.

Having put up a farm in the area created a lot of employment to many people residing there. This has made the area booming with cash flow and quite peaceful as some of the neighbors mentioned. The company's initial phase roses were sold through the auction and later expanded to direct sales and they have kept the two markets to date.

Currently the farm grows over 20 varieties of premium exporting an average of 100 stems of roses per square meter.



Map showing Nakuru West Farms







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## Main Story

### Kariki Group

The Kariki Group was founded by Richard Fernandes in 2002 on Bondet Farm with his brother Andrew joining him a few years later, close to Nanyuki on the slopes of Mt Kenya. Subsequent expansions have led to the development of 3 additional farms in the Thika, Naivasha and Molo areas, with over 100 ha of cut flowers under production. The core focus was and still is on growing niche summer flower crops with Eryngium Questar and Hypericum Flair series initially being the main focus, however more recently Roses, Hydrangea, Phlox, Astrantia, Ornithogalum and other summer flowers have been added to the product portfolio.

The Kariki Group comprises four flower farms located at differing altitudes in Kenya offering a climatical spread which allows a wide range of flowers to be grown. The group focuses on supplying a quality product to a global customer base reaching across Europe, Australia, Japan, USA, Canada and other parts of the globe. Kariki Group employs around 1,300 staff who are referred to as value adders.

### Porini Flowers

Porini Flowers, established in 2011, is a leading flower farm in Kenya founded with the aim of producing only the best export quality, flowers. The background of Porini Flowers

is backed by over a decade of unrivaled experience at Isinya Roses, leading to an ambition to produce extra premium quality roses.

Porini Flowers is about 26.5 hectares rose farm and a 2ha carnations farm that stands at an altitude of 2865 meters above sea level, making it the only farm in Kenya at such a high altitude. The aim is to produce the best, consistent, premium quality roses with long stems and bigger heads.

### Ravine Roses

Ravine Roses is part of Karen Roses Limited Group, a company established in 1989. After few years of activity in Karen, Nairobi, the decision was made to set up Ravine Roses and move the production to Eldama Ravine, approximately 220km north-west of Nairobi. Lying just a few miles north of the equator and about 2100m above sea level, this is a nearly ideal location and ecological environment for the cultivation of high quality roses.

Today, Ravine Roses is made up of five farms (Kapkolia, Chepsito, Kaptumpo, Simotwo, and Torongo), each run by a production manager and equipped with its own facilities. These farms employ around 1,200 full-time workers, a majority of which (52%) are women, making Ravine Roses the biggest employer in Eldama Ravine and surroundings. The role played by



**Not all roses,**

the enterprise in the economy of the region is even greater considering that this is an area with high rates of youth unemployment and is mainly inhabited by subsistence farmers.

### Subati Flowers Ltd

Subati Flowers Ltd. is a grower and exporter of over 100 varieties of spray and single head roses. The roses are grown in at an altitude of 2,200m above sea level, giving rise to exceptionally high quality T-Hybrid roses exporting million of stems a year to different countries around the world.

The Subati brand is very well known in the Flower Industry and continues to be a preferred supplier to many. They pride of the best quality flowers with exceptional customer service. The flowers are grown in both soil and hydroponics

The control of temperature and humidity in the greenhouse is very important in the growing process and is controlled by automated moveable vents and fans. When the roses reach their correct cut stage they are harvested and placed in bundles of stems. These bundles are then wrapped in nets and the nets are placed in buckets, which contain post harvest solution. These are then



**A propagation unit- Most of Nakuru farms have their own propagation units**



### Summer flowers are also available

transported to the grading hall where the post harvest process takes place.

#### Suera Flowers

Suera Flowers is one of Kenya's leading flower farms and uses only non-hazardous chemicals in line with European regulations, and is at the forefront in establishing a cleaner environment via the development of wetlands.

Suera is located in Nyahururu near the Thompson Falls at an altitude of 2300 meters. Suera is a family company founded in 1996. Divided over three locations, that are located close to each other, Suera covers 30 hectares where mainly roses are being grown. Each year, around millions of roses are exported. It is "A company built on loyalty.....Founded on dedication"

#### Mzurrie Group

Mzurrie group has two farms in Nakuru area. The farms embrace Total Quality Management Practices and are committed to understanding their customer needs and endeavoring to satisfy these needs to the best of our ability.

Their roses are of superior quality in terms of head size and vase life (11-14 days). They have also adopted integrated pest

management practices to ensure economical means of pest management with least effect on people, property and environment around us.

The innovative organization with an eye of meeting their promise of superior quality to their customers has embraced modern growing techniques including use of light screens to control radiation, use of misters to control humidity, use of banana transport system to reduce on damages on the roses among other innovations.

At Mzurrie Flowers choice is of essence with a wide range of products with a well balanced colour range giving the customer a one stop shop for all their colour requirements. The group ensures their customers get timely information on their orders and their enquiries.

They are sensitive to the environment in all aspects of their operations and have integrated with the surrounding communities to foster development in the neighborhood through various corporate social responsibility programmes.

The staff is committed to quality service and products to wholesomely meet and satisfy their customer's needs.

#### Carzan Flowers Ltd

Carzan Flowers Ltd is a merger of the parent company of carzan Cultures and laboratories Ltd and sister company Kipipiri Flowers Ltd and Shantara Ltd. Carzan was established in 1992 as a small family business, which has grown into fully-fledged commercial operation with three farms and production of over 100 million stems annually. These two farms are at vey distinct and separate

location to enable the best growing climate for each variety. For example the carnations are grown at high altitude farm of 2350 metres above sea level. The farms are bursting with an abundance of varieties with vibrant colours along with many long stalks favourites such as carnations, hypercum, solidago, Luminium etc.

Quality is carzan's mantra. They have set up strong quality procedures across the company from propagation plating methods, harvesting, grading, post harvest treatments, cool chain management to transport logistics ensuring even the smallest detail does escape their attention.

#### Industry Growth

In the early years, rapid growth was accompanied by criticism of the wages and working conditions of flower workers, but after a lot of teething problems, the industry has cleaned up its act. Regulations covering the use of chemical pesticides are much more strictly enforced and today the sector has one of the highest minimum wages in the region.

In a spin-off from the improvements in working practices and conditions, Nakuru rose farms have now become visitor attractions. Growth



IFTEX 2015: Carzan Flowers stand

## Exhibition

has been rapid in the area. According to sources, we are foreseen an expansion of another 300ha in five years time. This will make Nakuru the single biggest growing region in the country

The higher altitude farms specialise in the premium long-stemmed varieties with large heads that are particularly prized in Russia and other direct markets. The lower altitude specialise in the other varieties. This makes Nakuru the biggest single planting region where you can get all your needs.

Traditionally, the Netherlands has been the biggest market for Nakuru's flowers, accounting for 80 per cent of exports in 1990s. Today that figure has fallen to below 50 per cent and direct market exports have increased. Whereas the auction and their customers prefer shorter flowers, direct markets especially Russian consumers like large roses of between 90cm and 100cm, which can cost significantly more.

The recent economic crisis in Russia, prompted by the fall in oil prices and sanctions over Ukraine, has had a significant impact on the Nakuru rose industry. High altitude farms are now attempting to reorientate themselves to the auction market and its preference for shorter and cheaper roses. This has affected them and hope the Russian market is back to the fullest soon.



**Above and Below: Two Nakuru farms receive trophies they won during 2016 IFTEX. A show of their mighty.**



**Constructions: Farm expansion is an ongoing process in Nakuru**

Mr. Sachin Appachu of Bliss Flora, is confident that in the long term the industry will continue to thrive, but he is realistic about the challenges. "Nakurus's competitive advantages are its unique climate conditions and its innovation," he says. "With the present world situation, an important group of companies has shifted markets without having time to change product characteristics and marketing strategies, having much lower prices than expected. And it's more likely that more Russian-oriented companies will keep changing part of their sales to other destinations. A complete process of change takes time."

At the moment, the lorryloads of roses are still trundling down Nakuru-Nairobi highway, still the market offers little to be pessimistic about. Next time you need a rose, think of Nakuru.

# IFTEX 2017:

## Deliver the Final Bouquet to the Customer's Vase

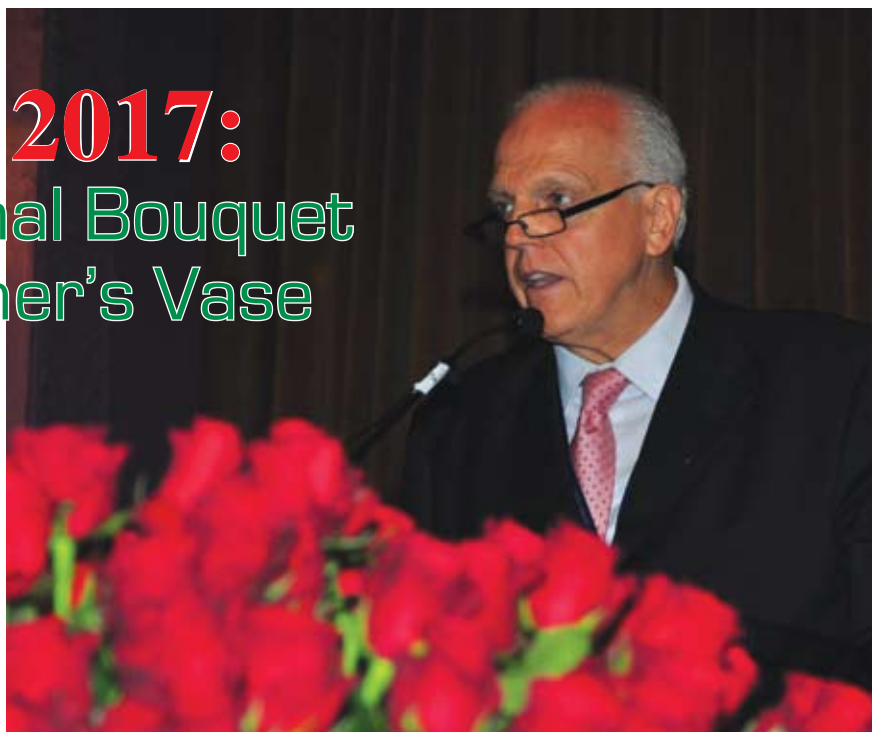
**P**opularly known as IFTEX, the show brings buyers from across the world to meet with growers who have staged a spectacular show of unarguably one of the best mixes of flowers the world can get, as well as the industry supply chain of products and services that together deliver the final bouquet to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

IFTEX 2017 will be special as it will give time to take stock after five years of spectacular shows since the show was launched.

Due to the great interest of not only the existing exhibitors to participate again, but also from many new companies and the invitation to flower growers from surrounding countries, IFTEX has been growing yearly.

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

The exhibition has reached the top of the the largest cut flower trade fairs in the world and will again rubberstamp its position by surpassing its own records hence affirming its continued improvement since the inaugural show.



### HPP President Mr. Dick van Raamsdonk

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

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

This year HPP expects more companies to exhibit, more than last years 3,500 national and international attendees, they expect to break their own last year record of 60 participating countries.

Exhibitors will include growers & exporters, brokers, breeders, propagators, suppliers

and other flower industry related companies. It is anticipated that visitors will include international flower buyers and flower growers. Both profiles are the prime targets of the event. "The exhibition has been growing in size, accommodating more exhibitors and more visitors, compared to previous years, said Dick.

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

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



# Thrips!!! Be ware

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

**T**hrips are minute, slender insects, usually only a few millimetres long with piercing-sucking-mouthparts and the ability to cause direct damage to flowers making it unmarketable for export.

Thrips have piercing-sucking mouthparts. They use a needle-like structure to puncture plant tissue and a second tube-like structure which is placed into the hole through which plant sap is extracted, subsequently causing direct damage to the crop.

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 thrip. These thrips 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.

## Western flower thrips (*Frankliniella occidentalis*)

Western flower thrips are one of the most notorious insect pest of greenhouse rose production worldwide. In order to develop controls, it is essential to understand the feeding behavior of these pests. WFT have piercing-sucking mouthparts, but they do not feed exclusively in the phloem sieve tubes. Instead, they feed within the mesophyll and epidermal cells of leaf tissues. More specifically, they feed on



**Rose flower attacked by thrips**

plants by inserting their tubular stylets into cells and withdrawing the cellular contents.

## Monitoring

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

## Effect of thrips

- Affects the quality of the flower

- The wounds inflicted serves as avenues for *Botrytis cineria*
- Reduced number of graderable and exportable stems
- Heavy investment on the farms chemical budget
- Less income for the farms

## Reasons why managing Western flower thrips is difficult

- Small and easy to overlook
- Concealed mode of life (part of life in soil)
- Prefer feeding on flower parts
- Hide in flowers, buds, leaf buds/hard to spot and reach with pesticides
- Live on a wide variety of host plants
- Reproduce rapidly in warm greenhouses
- Hide in plant materials and transported worldwide
- The pest is physiologically and behaviorally resistant to a number of pesticides.

## Management

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

**Exclusion:** Staying clean would involve excluding thrips from the greenhouse as well as eliminating sources of thrips infestation. Where feasible, covering the openings to greenhouses is a very effective delivering a reduction of up to 70% in pest problems. Screening to exclude thrips must be very fine. Such screening, known as microscreen, has a maximum hole size of 192µm (0.037mm<sup>2</sup>). This, however significantly reduces air flow when placed over vents, and growers must modify ventilation systems to compensate for this.

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

If any of these actions are omitted, it may leave an opportunity for the Thrips to persist.

**Blanket Sprays:** When treating a greenhouse for western flower thrips, all flowering plants in the greenhouse must be treated. Certain pesticides repel these insects. When a grower sprays only part of his greenhouse crops (commonly known

as spot spray) thrips can fly to nearby unsprayed plants. Some of the thrips will return to the sprayed plants shortly after the residue dries and the population will hardly seem to have been affected.

**Clothings:** Do not wear light blue, white, or yellow clothing into the greenhouse. Thrips may jump onto clothing and be carried to other benches or other greenhouses.

**Traps:** Use blue sticky traps or cards placed at top plant height to monitor populations.

**Closed Greenhouses:** Screen greenhouse vents and air intakes to exclude thrips from entering from outside.



Fig. 1. Western flower thrips adult (WFT)



Fig. 2 WFT adult female (left) and male (right) on sticky trap



Fig. 3 Onion thrips adult, Thrips tabaci



Fig. 4. WFT larva



Fig. 5. WFT prepupa



Fig. 6. WFT pupa

## Thrips life cycle

**Chemical Application:** Pesticide treatments should be scheduled twice a week or no less frequently than five days apart. Use normal insecticide rates and treat more often, rather than heavy rates less often. The success of the insecticide application will depend on the application strategy (e.g. Target sprays) and the chemical residual activity. Use several pesticides on a rotation rather than using the same pesticide repeatedly.

## Developing Spray Program

In developing a spray programs, the grower MUST take into consideration the following:

**Biological Mode of Action:** Biological Mode Action of the insecticides e.g. contact, systemic and translaminar, etc

**Target Stage:** Target stage in the insect lifecycle e.g. larval stages, adults etc

## Biochemical Mode of action:

Biochemical Mode of action e.g. *Acetylcholinesterase* inhibitors, *Nicotinic Acetylcholinereceptor agonists* etc

**Current resistance status:** It is important to know the population status before developing your spray program

**Use of Biological agents:** 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.

## 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.

**Simon Kihungu is a Technical Sales Representative with Bayer East Africa**

# A Detailed Look at Peatmoss

**P**eat moss is partially decomposed sphagnum moss plants, which are harvested from peat bogs. While peat moss is brown, like soil, it has a different texture and weight, it is light and spongy and crumbles into tiny splinters. It is difficult to wet, but once wet it retains water like a sponge, meaning it reduces drainage of water from soil.

Peat is a mixture of decomposed plant material that has accumulated in water-saturated bogs in the absence of oxygen. Peat formation is a continuous process, with bogs typically accumulating peat at a rate of 1-2mm every year.

The rate of accumulating plant material is greatest in areas where the ambient temperature is high enough for plant growth but where the level of rainfall, specific topography of the landscape and low transpiration rates encourages waterlogging, limiting aerobic microbial activity which would normally break down the plant material. Such conditions are found more frequently in the northern hemisphere.

Peat moss can be purchased on its own, but it is often added as an ingredient to potting soil to lighten the soil and allow it to hold moisture better. It is often the main ingredient of soilless potting mixes. Because the bogs where peat moss is harvested are ecologically fragile, there is now a movement to limit the use of peat moss in gardening.

Canadian sphagnum peat moss is a **natural, organic soil conditioner** that regulates moisture and air around plant roots for ideal growing conditions. It helps to do the following;

## Save Water.

- Peat retains up to 20 times its weight in moisture,

and releases water slowly as plants need it.

## Aerate Heavy, Clay Soil.

- Peat moss allows for proper root growth by loosening and aerating soils.

## Bind Sandy Soil.

- By adding body to sandy soil, Canadian peat helps it retain moisture and nutrients.

## Reduce Leaching.

- Peat moss reduces leaching of nutrients in or added to the soil, releasing them over time. This will save on fertilizer.

## Protect Soil.

- Peat moss protects soil from hardening and adds organic material.

## Make Better Compost.

- Peat moss speeds the composting process, reduces odours and controls air and water in the compost pile.

Peat moss decomposes slowly over several years compared to compost which typically decomposes within one year. It has a reliable pH (3.4 to 4.8); is environmentally friendly and free of insects, weeds, seeds, salts and chemicals, and represents good value (bale compression means you get approximately two bales in one!).

Peat is a very homogeneous material available in large quantities, which allows growers to have results which are predictable and reproducible.

Peat is by nature a very clean and safe material for crop production. It is produced in remote areas where there is no commercial crop production activity, so it is unlikely to contain any weeds or other





## KEKKILÄ PROFESSIONAL GROWING MEDIA



Kekkilä Professional growing media solutions for plants are made of carefully selected raw materials, ensuring outstanding quality in every bale.

It's benefits include:

- Properly aerated to ensure proper root development
- The media is free from fungal spores and bacteria
- Increases the germination percentage rate

Plants for propagation include: all flowers, all vegetables, all herbs, pot plants, forest and nursery stock.

Old Airport North Rd - Embakasi  
P.O. Box 30327-00100, Nairobi  
Tel: 0719 095 262  
Email: [green@amirankenya.com](mailto:green@amirankenya.com)



contaminants. In addition, the winter time temperatures dive below minus 25 degrees, helping to kill any unwanted pathogens.

Finally, peat has a low bulk density and is easy compressible. This makes it very fuel efficient for transporting over long distances. This helps to both keep prices down for growers, and to reduce its impact on climate change.

The colour of sphagnum peat - white, brown or black, reflects its degree of decomposition, which can be measured on a scale called the von Post scale. The von Post scale classifies peats depending on the level of decomposition, and is divided into ten classes, from very slightly decomposed peat (H1-H2), slightly decomposed peat (H3-H4), medium decomposed peat (H5-H6), highly decomposed peat (H7-H8), until finally completely decomposed peat (H9-H10). For growing media, the best peats to use are those from H1 to H6.

Different peats on the von Post scale, are physically and chemically different. For example dark or “black” highly decomposed sphagnum peat has the highest water holding capacity, whereas the white sphagnum peat has the highest air capacity. Calcium and magnesium concentrations as well as pH-values also vary between the different peat types.

Peats from different sources also vary biologically, and vary in their microbial composition. Generally, blond or light-colored peats (H1-H2 on the von Post scale) are known to be very disease suppressive. This is because they can harbor high populations of ‘friendly’ microbes such as *Trichoderma* and *Streptomyces* species, which have shown to reduce the levels of pathogenic microbes in soil.

So it is evident that the degree of decomposition has a large impact on the physical, chemical and biological characteristics of peat, and depending on the crop and growing situation, different peats are selected for different growing media.

As different grades of peat are used for different purposes, once arrived at the production facility, the peat is carefully checked before further processing and turning into growing media.

Smell, purity, colour and other visually detectable and are first inspected. Other parameters are then tested by laboratory

analysis including, pH, moisture content, water absorption, structural analysis, bulk density, temperature and weed tests. Only peat which passes all the tests then enters into the production facility.

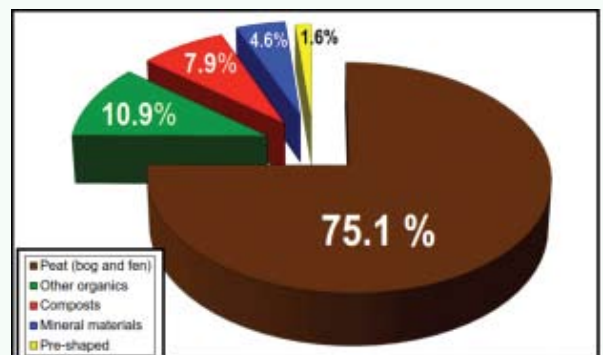
Different grades, and types of peat, are then separated into bays at the production facility, and selected for specific recipes for individual growers. Various peat grades as well as specific additives such as starter fertilisers, are then accurately dosed and blended together to formulate growing media for individual customers.



Figure 13 Sphagnum peat for potting soil (Photo Kekkilä Oy)

### Used by growers all over the world

In Europe, 90 % of the growing media used by professional growers are peat-based. In 2013, the total growing media market in EU, which includes amateur (hobby) use, was more than 34 million m3. Peat is also transported and used across the globe. From Northern Europe, peat is sent by ship to areas including the middle-east, Asia and even Australia where growers appreciate its unique properties, supporting a global horticulture industry.



# Floriculture Sustainability Initiative General Assembly 2017

## FSI: Responsible Sourcing And Projects Kick-Off

Members of the Floriculture Sustainability Initiative (FSI) supported on Thursday 26th January 2017 the improvements for a sustainable floriculture sector. During the FSI General Assembly at the IPM Trade Fair in Essen, Germany, Members strengthened their determination to achieve the FSI ambition of 90% flowers and pot plants sourced by FSI members from responsible sources by 2020.

Every year during IPM, FSI members come together to discuss the latest developments and align on the way forward. The focus this year was on the Basket of Standards, the Responsible sourcing and the approach on the key sustainability topics in floriculture.

### International Sourcing Reference

The FSI Basket of Standards includes environmental and social certifications/schemes that are validated through independent benchmarking. FSI members are using this basket to measure their sourcing performance. With the addition of 2 social and 2 environmental standards/schemes, the 2017 Basket contains 14 standards and schemes related to responsible sources. Besides using it for their own reference, FSI and its members will actively promote the Basket of Standards as international reference point for responsible

sourcing in the supply chain.

### Projects on Key Topics

During the General Assembly the next round of FSI member projects were launched, taking an ambitious approach on the Key Topics Working Conditions, Water use, Agrochemicals and Supply Chain Transparency. With these 4 new projects kicking off, FSI members will be working towards further integration of IPM; increasing knowledge on pesticide use; promoting wetland development and water stewardship; improving Women empowerment through gender-sensitive management. The projects are co-funded by the Dutch Sustainable Trade Initiative (IDH) and are contracted for the period 2017-2019.

Beyond the responsible sourcing strategy and the projects' work, FSI members Hivos, BSR Her+ Project and Partner Africa presented their

collaborative approach on Gender equality. The Working Group on Gender supports and aligns the efforts towards empowering women workers. And by closely working together with the producers and exporters organizations EHPEA (Ethiopia) and KFC (Kenya) positive impacts are directly delivered at farm level.

### Election of Retail and CSOs Board representatives

The General Assembly also elected the new Board representatives for Retail and Civil Society. FSI Ordinary members unanimously approved the election of Leon Mol (Albert Heijn) as Retail representative and Benjamin Gatland (Partner Africa) representative of the Civil Society Organizations.

### FSI General Assembly 2017

Note for the press, not for publication:  
The floriculture Sustainability Initiative unites international organisations throughout the



floriculture supply chain with strong participation of both business and civil society. By combining global and local sustainability interests in a pre-competitive way, FSI members aim to achieve results on the field and build on existing projects and initiatives.

FSI is hosted by Union Fleurs in Brussels and is funded through membership contributions and funding.

For more information and pictures, visit [www.fsi2020.com](http://www.fsi2020.com) or contact Caroline Le Grand at [caroline@fsi2020.com](mailto:caroline@fsi2020.com)

# IPM ESSEN

## is the Most Beautiful Trade Fair in the World

Position as the World's Leading Trade Fair for Horticulture Confirmed Impressively



***The International Plant Trade Fair in Essen (IPM) has once more proven that it is an indispensable inspiration, communication and ordering platform for the global green sector. As the top speaker, digital expert Mr. Sascha Lobo talked about the subject of digitisation in the green sector. Over 57,000 trade visitors from all over the world travelled to Messe Essen from January 24 to 27 to obtain information about the newest plant breeds, innovative horticultural technology, floristry trends as well as sales-promoting products for the point of sale from 1,577 exhibitors from 45 nations and to order goods for the coming season. The Dutch put in a strong appearance at the trade fair. They were the proud partner country of the 35th edition of the world's leading trade fair for horticulture. The mood was outstanding amongst the exhibitors and the visitors alike.***

“Four very successful days at the trade fair are behind us. IPM ESSEN was able to prove that it is an indispensable meeting point for the entire international green sector. Trendsetting stimuli emanate from the world's leading trade fair for horticulture. Both quantitatively and qualitatively, we are looking back on an

all-round successful event,” according to Oliver P. Kuhrt, CEO of Messe Essen. The figures speak for themselves. More than a third placed orders directly at the trade fair. Around 90 percent rated the range on offer as positive. 93 percent of the visitors would recommend a visit to IPM ESSEN - a top value. There was an increase in the number of Dutch visitors (plus three percent). That is the good result of this year's partner country cooperation. IPM ESSEN was totally characterised by Germany's neighbouring country. The Ambassador of the Kingdom of the Netherlands opened IPM ESSEN in an entertaining opening ceremony.

### **An Eye on New Target Groups**

Plants are conquering the living spaces. Gardening in the city is fashionable. “Urban Jungle” and “Grow Your Own” were the major subjects at IPM ESSEN 2017. Herbs as well as fruit and vegetable nibbles are very popular. In 2017, they are not being planted individually but instead in combination with flowering ornamental plants. The trade fair focused on house plants in particular. They are making a comeback at present. They are easy-care and are going down especially well with the young target group. The simple handling is playing an ever greater role amongst the final

consumers: No matter whether planting bowls with built-in irrigation systems, extremely long-living cut flowers or undemanding shrubs - the exhibitors presented innovative solutions. Moreover, a lot of new products were introduced amongst the bedding and balcony plants.

Delicate pink to violet tones (possibly united in one flower) will dominate the coming garden season. “IPM ESSEN has yet again lived up to its reputation as the world's leading trade fair for horticulture and an important place for meetings for networking purposes. Precisely in times of increasing competitive pressure in our sector, it is important to have fresh and innovative ideas. IPM offers the ideal platform in order to let yourself be inspired,” according to Jürgen Mertz, President of the Central Horticultural Association (ZVG).

### **First-Class Supporting Programme: Sascha Lobo as the Top Speaker**

IPM ESSEN once more offered a particular value added for trade visitors from all fields due to its extensive supporting programme. Experts imparted their knowledge in numerous conferences. For example in the new future congress entitled “Horticulture and Landscaping Outlooks” staged by the North Rhine-Westphalia Association for Horticulture, Landscaping and Sports Field Construction, the blogger, author and strategy consultant Sascha Lobo revealed how horticulture can profit from the megasubject of digitisation. Lobo's message to the sector: “Don't avoid digitisation or hope that it's minimal - help to shape it!” This year, the International Horticulture Forum staged by the Representation of interests of the German horticulture industry (INDEGA) focused on the Netherlands as the partner country. The participants spoke about new market segments in the German-Dutch trade relations. At the lecture event staged by “The Green City” foundation and the Federation of German Nurseries, nursery gardeners,

landscape gardeners and decision takers from local authorities obtained information about the subject of “New Diseases and Pests: Consequences for the Green Sector”.

The trade visitors gave top marks to the presentations close to practice. Numerous designing ideas for the POS, appealing shop situations and marketing concepts were shown in the g&v Creative Centre. These included “Floral Enjoyment Worlds” such as those with goji berries or edible pelargoniums. The presentation made by Bloom’s bore the motto of “Floral Living”. Here, the visitors also found strong-selling ranges for the designing of floristic events and shops.

#### **Innovation Showcase with Special Prize**

For the tenth time, Messe Essen and the Central Horticultural Association (ZVG) honoured the best plant innovations: The Pelargonium zonale ‘Brocade Fire Night’ presented by Dümmer Orange from Rheinberg was distinguished as the “IPM Innovation 2017” in the “Bedding and Balcony Plant” category. The Mandevilla sanderi (Hemsl.) Woodson ‘Mini Scarlet’ received the title in the “Tub Plants” category. The Hibiscus rosa sinensis ‘Petit™Orange’ presented by Graff Breeding from Denmark received the mark of distinction in the “Flowering House Plant” category. An alstroemeria presented by Könst Alstroemeria from the Netherlands, i.e. the ‘White Pearls’, was once more distinguished in the “Cut Flowers” category. The Expert Commission decided in favour of the Picea abies ‘Little Santa’ presented by Baumschule Artmeyer from Hörstel in the “Woody Plants” category. The jury has distinguished the ‘Helleborus Gold Collection @Ice N’Roses®’ (Helleborusxglandorfii) presented by Heuger Gartenbaubetriebe from Glandorf in the “Shrubs” category. The Rosa polyantha ‘Smeralda Green Show’ presented by Twelve Energy Societa Agricola SRL from Italy emerged as the Special Prize winner this year.

For the first time, the trade public was able to choose its favourite. The visitors decided in favour of the winner of the “Shrubs” category: ‘Helleborus Gold Collection @Ice N’Roses®’ (Helleborusxglandorfii) presented by Heuger Gartenbaubetrieben from Glandorf.

#### **Show Your Colours Award Honours Excellent Storytelling**

The Show Your Colours Award distinguished shrubs and woody plants with strong-selling stories. The winner was the ‘Mentha requienii MATCH & MOSS MENTHOL’ from van Son & Koot BV from the Netherlands. The evergreen groundcover spreads a pleasant menthol smell and convinced the jury and the visitors alike.

#### **Distinguished Horticultural Technology**

An outstanding technical innovation in the field of fruit and vegetable cultivation was presented with the INDEGA IPM Innovation Award. The award which is presented by Messe Essen and INDEGA went to the 2SaveEnergy Consortium for the 2SaveEnergy greenhouse system.

#### **FDf Provided Inspiration for the Flowery Retail Trade**

In numerous live shows in the FDF World, the Trade Association of German Florists (FDF) presented trends, marketing concepts and new sales concepts which strengthen the unique selling point and competitive advantages of the flowery specialised trade.

Tamas Mezoffy from Hungary, the reigning European Champion of Florists, the runner-up Roman Steinhauer from Russia and the third-placed Pirjo Koppi from Finland aroused the enthusiasm of the public during the European Champions Show - “Stars of Genoa”. Germany’s best florists introduced spring-fresh young flowery ideas from the hands of champions. The German champion Stephan Triebe from Hamburg, the runner-up Sarah Hasenhündl from Baden-Württemberg and Mehmet Yilmaz from Rhineland-Palatinate put the visitors in the right floral mood for the forthcoming spring. Live on the stage, they elaborated workpieces, amongst other subjects, called “Love is all around”, “Floral Heartbreaker on Valentine’s Day”, “plant to go” and “urban jungle”. One public favourite was the selfie bouquet. The “Happy Flower People Live on Stage!” show also offered an abundance of flowery inspirations for the enthusiastic visitors.

The participants in international competitions were established during the FDF young florists contest called “Flower Contest - We Want

You!”. Maximilian Martin will start for Germany at the 44th WorldSkills in Abu Dhabi. Christina Möglich will represent German floristry at Eurofleurs 2017 in Belgium.

#### **IPM Trade Fair Cup 2017**

The IPM Trade Fair Cup 2017 bore the motto of “Upcycling”. Sabrina Hadenfeldt from Blumenhaus Hofgarten in Düsseldorf was victorious in the “Bouquet” category. The workpiece of Jennifer Tiroke from Blumen Prinz in Mönchengladbach was distinguished as the best decorative pot plant. Bärbel Grzenia from Blumen für Dich und Dich in Borken convinced the jury as far as the tub plants were concerned.

#### **Instagram, Pinterest, Facebook and Co.: FDF Inspired the Specialised Flower Trade**

With its flowery innovations for the young target group, the “Flower Lab” was very well-received. For the first time, the new Millennials collection called “cool flowers for cool people” which FDF and Florismart had developed for the sector was introduced in this setting.

The new chrysanthemum collection called “just chrys 2017” was created with a view to new sight habits and altered consumption needs. The displayed creations place their faith in original visual languages in the style of Instagram, Pinterest, Facebook and co. In 2017, the FDF Trend Hotspot was dedicated to three major currents in society which are determining the green sector: the search for truth, equilibrium and the definition of new playing rules. The FDF Trend Hotspot showed displays in the trend atmospheres called “Harmonise”, “Equalise”, “Energise” and “Rebel”. The flower as a trend product and a must-have for modern customers.

The FDF President Helmuth Prinz: “FDF’s new booth concept has come off perfectly. With our showrooms, we have aroused the enthusiasm of young florists in particular. Here, the trends implemented by us such as Upcycling and Factory Style went down very well. For us, IPM ESSEN is a valuable platform on which we reach a national and international trade public and to make people enthusiastic about the florist’s occupation. We had a lot of good discussions, valuable contacts and a successful exchange of ideas.”

# Why Buyers Should go for Kenyan Flowers

## KFC Certification: Stricter in Comparison

KFC administers compliance through the internationally accredited KFC Code of Practice (CoP) on good agricultural practice, sustainability, social accountability, hygiene, health and safety, capacity building, environmental protection and conservation.

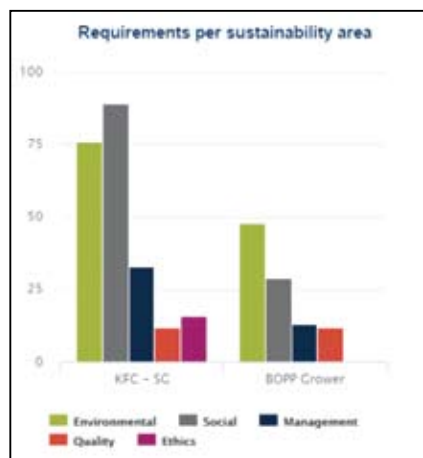
There are two key industry standards in Kenya that guide the production of flowers in Kenya: the Kenya Standard 1758, which is mandatory to all flower growers in Kenya, and the Kenya Flower Council Code of Practice, a private standard which is adhered to by all members of the Kenya Flower Council. Both contain comprehensive chapters on responsible production of flowers. There are also other private standards, such as MPS, Fair Trade, BOPP and BCCI.

The Kenya Flower Council certification scheme draws its authenticity and transparency through accreditation by the South African National Accreditation System (SANAS). It also collaborates with the Kenya Bureau of Standards to maintain and implement the industry standards.

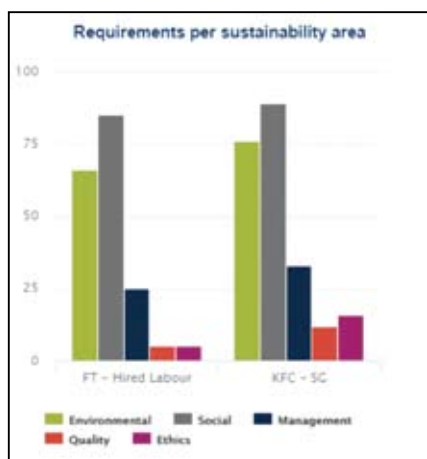
The KFC quality standards are generally stricter in comparison with other major standards on the FSI online portal, especially when it comes to environmental and social impact (see below). Of the two pillars of GSCP benchmarking (social and environmental impact), the KFC Standard is already benchmarked to Global GAP since 2008.

The final of benchmarking to the GSCP social

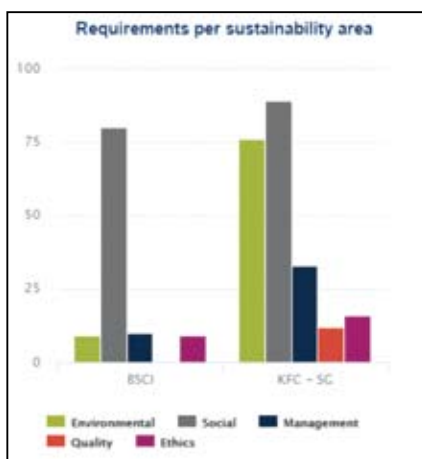
requirements pillar was achieved very recently, in the fourth quarter of 2016.



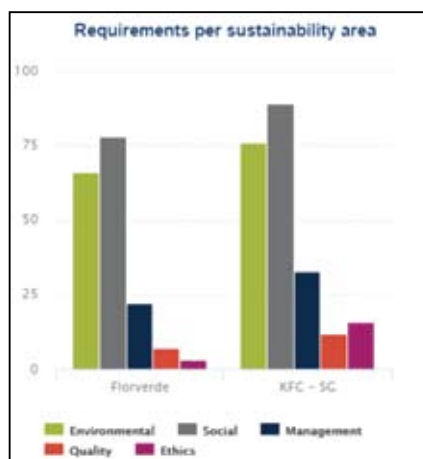
KFC Flowers & Ornamentals Sustainability Standard Vs BOPP



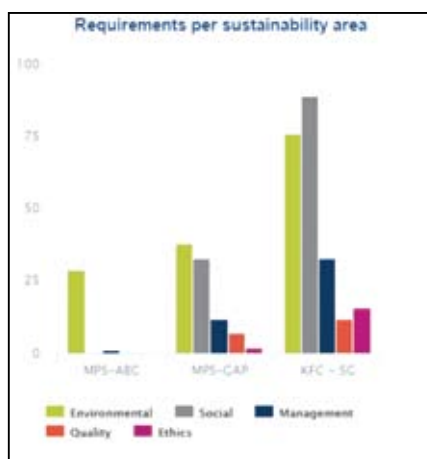
KFC Flowers & Ornamentals Sustainability Standard Vs Fairtrade Hired Labour



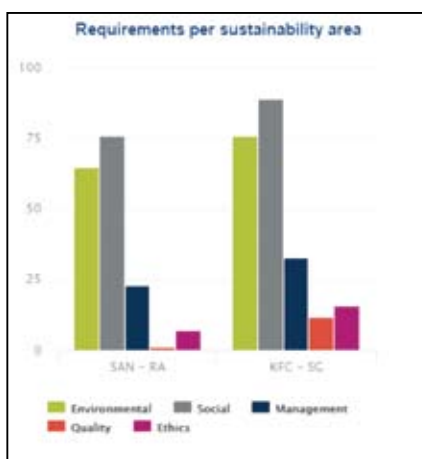
KFC Flowers & Ornamentals Sustainability Standard Vs BSCI



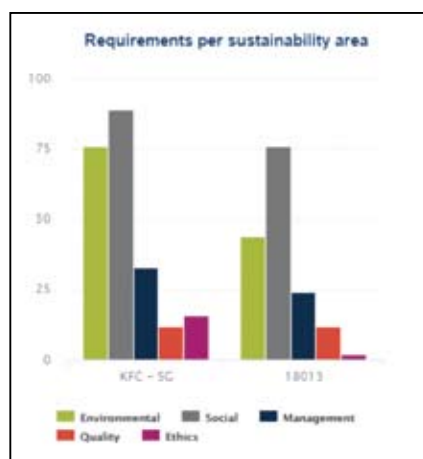
KFC Flowers & Ornamentals Sustainability Standard Vs Florverde® Sustainable Flowers (Colombia)



KFC Flowers & Ornamentals Sustainability Standard Vs MPS ABC & MPS GAP



KFC Flowers & Ornamentals Sustainability Standard Vs SAN Rainforest Alliance.



KFC Flowers & Ornamentals Sustainability Standard Vs Ethiopian EHPEA Standard

# Elgon Kenya Limited Launches Zeba.

## *The Right Product at the Right Time*



### Mr. Savesh Kumar, UPL Marketing Head Africa enumerating benefits of Zeba to growers.

Elgon Kenya Limited, Kenya's leading one stop supplier of agro-inputs, has launched Zeba, a revolutionary starch-based, super absorbent. This was made possible with the company's tie up with UPL, a global crop protection giant.

Zeba is classified as a SAP (super absorbent Polymer). It is made from natural corn starch grafted to form a co-polymer. The product is capable of absorbing water within its grafted matrix to over 400 times its weight.

Speaking during the launch, Mr. Bimal Kantaria, Managing Director Elgon Kenya Ltd said that the product was the long waited saviour for the agriculture sector. "This product could not have been released at a better time than now when the country is facing serious drought due to the poor rains experienced", he added.

Mr. Savesh Kumar, UPL Marketing Head Africa said, "Zeba is a unique technological product to counter the increasing drought-like situations and uncertainty of climate change. It will play a crucial role in Kenya's dry land farming resulting to immediate impact". He told growers that Zeba, a natural corn starch-based granule product, absorbs, retains and releases the water more than

400 times of its weight in the water.

Zeba forms hydrogel suspended around roots, hydrates, then releases water on demand, repeatedly. It is nontoxic, degradable; safe hence the final results are higher quality plants, using less water, making inputs more efficient.

### Zeba benefits



Additionally, Zeba assists with soil aggregation and reduces soil particle movement. This provides an environment for Microbes, Increasing soil CEC. This results to retaining nutrients and increasing of the soil function in addition to environmental profile, leaching and runoff.

Growers who use Zeba will improve their soil's

physical qualities, water Holding Capacity and increase water use efficiency. Use of Zeba also results in improved soil aggregation, reducing soil bulk density and increased root penetration. Growers will also experience increased nutrient acquisition and use efficiency, and reduced surface capping.

Mr. Aruni Singh, a Manager with an herbs farm in Kitengela confirmed Zeba had enabled him cut down the use of water. "Kitengela is a relatively dry area and with the current drought, the situation has worsened. We have faced a serious shortage of water but eight months ago, I was introduced to Zeba, on trials, the Zeba treated section did not seem to suffer any production drop like I saw in other places. That means the availability of water kept the plant in a better shape through the heat. Zeba kept a more consistent supply of water in the root zones. I saw a larger plant structure, which tells me water was consistently available. Now it is part of my procurement budget", he said.

"With launch of Zeba today and other more new products to be launched this year we will improve our kitty of brands, providing a complete basket to farmers at an affordable cost" said Mr. Baiju Kantaria, Sales and marketing Director, Elgon Kenya Ltd. He called on growers to take advantage and maximize their profits.

UPL Head of Business Africa, Mr. Nishant said that the company consistently strives to reap an excellent harvest of value for the farmers as its partner through implementation of sound crop protection strategies. He promised growers more interesting products with ability to meet specific needs of each crop and every region.

In an interview with *Floriculture Magazine*, Mr. Andrew Tubei of Masai Farm said, "going by the data and testimonials presented, it is an good product that has come at the right time". Same sentiments were echoed by Mr. Michael Gathage of Redlands Roses in Ruiru. Most of the farmers present seemed to agree with them.

# 7 Ways to Empower Your Employees

Your employees' success is intrinsically tied with your own. Employee empowerment and engagement can be the key to a successful business and a happy, healthy environment for everyone.

It can sometimes be easy for leaders to forget that their business relies not only on their own performance, but that of their employees. Your employees' success is intrinsically tied with your own, and without them, you essentially don't have much to offer. Empowering and engaging with your employees can be the key to a successful business and a happy, healthy environment for everyone.

*So here are my 7 rules to getting the best from your team:*

# 1

**Empower employees, don't micromanage**

Micromanagement can be the downfall of many leaders, who prefer to keep a tight leash on every aspect of their business. It can be one of the biggest killers of trust amongst your employees. Try to avoid dipping into every nook and cranny, and instead, invest your effort into empowering staff with the tools they need to succeed. Assess at each point if the outcomes are what you are looking for and guide from there. Your employees will trust you when you trust them.

# 2

**Let them learn through managing others**

Learning through managing others can be an incredible tool and learning curve for your staff, whether it's managing a team of interns at the lower levels or your senior staff assisting you with managing the rest of your team. Instead of simply telling your employees that they have the power and autonomy it takes for success, why not let them put their skills into practice? This will develop confidence and decision making

# 3

**Let them in on the big picture of where the company stands and how they contribute directly to the bottom line**

Each member of your team is like a piece of the unique puzzle that is your business, and while you know exactly how the bigger picture looks, it can be very difficult for some employees to see where they fit in, or see themselves as a valuable part of the team. How can you expect your employees to trust you if you keep them in the dark? Letting them in on the bigger picture will let your team focus on a shared goal. One of the biggest compliments you will receive is how well your close-knit team works together. This is because each team member knows their value, and strives to contribute so that you as a team can exceed your clients' expectations.

# 4

**Give them platforms to voice opinions**

Creating a safe environment for this to occur is crucial to allow for open, honest communication throughout your business. Build connections at every level of the business wherever you can. There is nothing more empowering for your employees than telling them they have a voice, and that their voice matters.

# 5

**Give them the reins over entire projects so they feel full ownership and accountability**

This is one of the best ways of building trust with your staff, and demonstrates that you have faith in their abilities. This will not only help them learn quite quickly, but should give them a little boost in confidence that will go a long way! This also allows for employees to take responsibility for their own errors, and take credit where credit is due.

# 6

**Be flexible in how they manage their time**

Coming under the same umbrella as micro-managing, your employees will feel much more confident knowing you trust them enough to manage their own time. The way in which daily tasks are juggled is very personal, and everyone has different ways of handling things. Let your team be their best in their own ways, but do make it clear to them that you're just an email away if they need guidance! The best method is to set guidelines or loose timeframes for your staff, letting them hash out the specifics themselves. You may find that your employees learn much faster this way too.

# 7

**Give them platforms to talk to you about where they are at and how you can assist their career path**

I find building rapport and openness through heart to heart conversations is extremely affective. You don't need to be best friends, but sharing how you feel about the work regularly means there are no surprises at any point. From the outset, you can make it a ritual to have monthly 'coffee catch-ups' with each individual member of your team so you could better understand them, exchange honest feedback about where they're at with the business (both good and bad) and voice any concerns they have. Your staff will really appreciate the personal approach, chance for positive recognition and opportunity to voice any issues with their position or with their team.

All in all, keeping great talent really can mean the difference between a business flourishing or failing. I would say I spend up to 75% of my time working with my team so they feel nurtured, listened to, and valued. Take the steps to empower your team and assist their leadership and management skills – you will notice a world of difference!



# Pathogen Free Plant Propagation Materials is a Real Challenge

**P**roducing plant propagation materials requires close attention to pest management and Maximum Residue Levels (MRLs). Producing pathogen free plant propagation materials with low MRLs is a real challenge.

To comply with the strict standards imposed on products in each target country requires chemical control, effective application and innovative inspection models.

The company's pest management should be based on several levels of prevention, inspection and pathogen monitoring; unique systems for the application of biological and chemical agents and sanitation methods including disinfection stations at each entryway. Each security cycle involves both internal inspection and external supervision.

The staff follow the strict protocol for daily monitoring; while experts conducts regular checks and ensure delivery control.

Biological controls are based on: Predatory mites, parasitic wasps and predatory bugs.

Chemical control protocols include weekly prophylactic treatments, combined with focused treatments for specific infections. Rotation between chemicals avoids active ingredient breakdown and label approved chemical mixtures should also be used.

Managing chemical residues requires constant review of information sources – EU, USA, WHO, UK and Japanese data bases provide which

updates on regulation and working practices. Active ingredient standards have changed dramatically over recent years and must be monitored constantly.

Marketing chains often require even more stringent levels than legal MRLs and ban the use of some chemicals altogether. More effective chemicals must be used very carefully, because they harm predatory mites.

In most cases the companies prefer to use self-propelled, air assisted sprayer, to achieve optimal effectiveness and low residues. High MRL products can be applied using other methods.

Current R&Ds focuses on new tools for crop protection and product quality. The subjects now under

strict scrutiny include: essential oils, fumigation, dipping, vacuum bug trapping, disinfection products and technologies, photo-selective insect proof nets and plastic covers, chemical applications, new sprayers and new technologies for pest inspection and rejection.

Modern pest and MRL management in farms and the propagation industry requires R&D, sophisticated working procedures and tools, inspection and monitoring, physical barriers, climate control, biological agents and continuously updated data bases.

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In most cases the companies prefer to use self-propelled, air assisted sprayer, to achieve optimal effectiveness and low residues.

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# Forseen Positive Outlook in Flower Farming



**A** positive outlook for global flower farming, together with abundant stocks, points to a generally comfortable supply and demand balance in its latest global floriculture industry outlook.

Floriculture industry is however expected to increase over the coming years to new height records over its peak due to upward revisions on variant growth in flowers.

Global flower farming utilization is expected to expand in flower demand in the market, in particular, seen increasing over the years amid large supplies driven by the global market inventories.

The international flower market will most likely witness a season of abundant supplies, amid expectations of record of

production and rising stocks. The global forecasts in flower farming is above all-time high, due to improved crop prospects.

The forecast for floriculture industry is emerging as anticipated is expected to occupy at par with the market demand expectation which is projected to almost reach above the annual estimate reflecting ample availabilities at competitive market sales rates.

World flower industry are forecast to increase further and the highest level since 2001 / 2002. International flower prices are likely to remain stable relatively.

Global production coarse are projected to increase from the previous years reduced level, due to good prospects in the overall supply and demand

outlook with suggestions of slight tightening of the market compared to the previous season. However, with large export availabilities and weak domestic demand prospects, international coarse flower prices could remain subdued.

Record flower outputs over the world, along with gains in number of other major producing countries are likely to boost world flower production over the coming seasons, despite expected sharp declines in some of the countries that practice flower farming.

Production in variety of flowers is also heading to an increment, with anticipated growth offsetting a reduction in expected production level on smaller outputs in several countries. Relatively low prices are also likely to stimulate the

final consumer use whereas world prices are likely to remain under downward pressure for most of the coming seasons.

With good farming and production prospects, a boost in sales to international markets, primarily at the expense of lower deliveries in some of the countries, consolidating the world's supply. Global reserves at the close of every season are anticipated to fall for the successively due to expanding demand lifting the utilization over projected production and farming.

A three-month upward trajectory in international prices came to an end in recent times thus preliminary forecasts for the season point to a relatively balanced global supply and demand situation after a tightening in market fundamentals. This therefore, enables a full recovery from previous seasons fall, possibly climbing to a new record.

The expansion will be led by an increase in flower farming in the floriculture industry with an anticipation to growth which would be concentrated where record high yields are set to boost output. Farmers are expected to foresee expansion in production, reversing the downward trend observed in recent years. In coming months' prices might be affected by developments impacting the floriculture industry worldwide.



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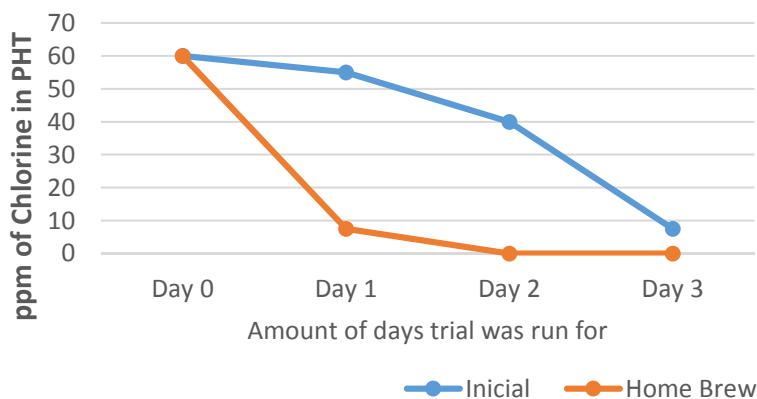
# Chrysal 'Has' the Solution

## Chrysal Inicial

**Rehydration** for flowers is essential! **Chrysal** has come up with a "**First Drink**" solution for every Rose. With **Chrysal Inicial**, you will be assured that your Roses get the cleanest, purest post-harvest water treatment a flower needs. With its simple mixing formulation, flocculating capability and slow release chlorine **Chrysal Inicial** is the thirst-quencher for all flowers.

We all know that water management can be difficult, however with **Chrysal Inicial** it doesn't have to be. You can re-use **Inicial** for up to 3 days, allowing for water saving, without having to worry if your flowers are being hydrated enough. It cleans, regulates pH and keeps bacteria at bay all at the same time, ensuring that your Roses get the best possible uptake of water within the first hours of Harvest. The results speak for themselves – see the graph below which shows how the slow releasing chlorine of **Inicial** allows to keep you PHT **free of Bacteria** while saving water usage at the same time.

Re-use of **Chrysal Inicial** vs. Home Brew



### Detailed Analysis:

**Day 0** – This was the first day that the flowers were harvested. They were placed into a bucket of fresh **Chrysal Inicial**. From the greenhouse they were taken to the Packhouse for pre-cooling. After a period of 4 hours the flowers were removed from the bucket and graded, The **Chrysal Inicial** bucket was then returned to the cold store overnight. This allowed the **Chrysal Inicial** PHT to cool down over night before being re-used the next day.

**Day 1** – this is the second use of **Chrysal Inicial**. With a similar protocol to Day 0, the bucket of Inicial was removed from the overnight cold store and taken to the Greenhouse. Flowers were placed in this bucket and transported to the Packhouse for precooling. After 4 hours the flowers were removed from the bucket for grading, and the bucket itself was returned to the cold store overnight.

**Day 2** – this is the third use of **Chrysal Inicial**. Again following the same protocol as Day 0 and Day 1, the bucket was removed from the overnight cold store, where it was taken to the Greenhouse. Flowers were placed in the pre-cooled PHT of Chrysal Inicial and then brought to the pack house. At this point the bucket, which had now been used for a total of 3 Harvests and over 3 days, would be discarded and a Fresh batch of **Chrysal Inicial** would be used for another 3 days.

# Inicial

*Chrysal Inicial reduces problems associated with use of “Home-Brew” post harvest treatments*



## *In the following ways:*

- It's an all in one post-harvest treatment for better vase life and opening – maintains pH for optimum uptake, flocculates for better water quality and controls bacteria.
- pH of the ready to use solution: 5.0—6.0
- Inactivates fine solutions and neutralizes harmful organic and inorganic substances, allowing the flower stems to fill up with clean water
- Simple and easy to dose (0.3g/l).
- Suitable for all water types – ideal for the Kenyan situation
- Most active and stable form of Chlorine – tests show solutions can be used for 2-3 days.
- Minimal possibility of damages usually associated with home brews (Aluminium toxicity, Chlorine burns)
- Suitable for all cut flowers
- Ready to use solution contains: Aluminium Sulphate (20ppm), Active Chlorine (50ppm).
- Residual solutions may be disposed of by draining into the sewer system

*That's the beauty of Chrysal*

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*The Beauty of Chrysal*

# What Might Brexit Mean for UK Hort?

**A** report prepared by AHDB examined trade flows between the UK, the EU and its other major global trading partners for horticultural products and how relationships might change after the UK leaves the EU.

The UK has not yet defined the post-Brexit trade relationship it intends to seek with the EU or with the rest of the world. If the UK were to negotiate free access to the Single Market, little would change in terms of the UK's trade in horticultural products. However, other possible scenarios may have a significant impact on trade flows between the UK and both the EU and non-EU countries.

One option is that the UK may seek a Free Trade Agreement (FTA) with the EU but the complex negotiations involved mean it is possible, perhaps even likely, a deal may not have been reached by the time it leaves. If this happens, there may be an interim deal allowing free trade to continue while a permanent agreement is negotiated. If this is not possible, the UK would revert to trading with the EU on the same basis as other WTO members, with UK exports subject to EU import tariffs.

If it is outside the Single Market, the UK would need to decide whether to impose import tariffs of its own, including on imports from the EU. However, this could lead to higher consumer prices, which may be politically unacceptable. Therefore, the UK may prefer to allow wider access to the UK market, at least for some products, by reducing or removing tariffs or by using tariff rate quotas.

The most common type of import tariff is 'ad valorem', where a percentage of the price is paid. Tariffs can also be a fixed amount in monetary terms or a mix of the two. Tariff rate quotas (TRQs) allow a specified quantity to enter the market at a reduced (or zero) tariff. Once the limit

has been reached, the tariff reverts to the standard rate. Quotas can be specific to one exporting country, a group of specified countries or can be open to all suppliers.

If the UK is outside the EU Customs Union, it would be free to negotiate FTAs with trading partners of its choosing. The position of horticultural goods in these negotiations is likely to be complex. In many trade agreements, tariffs remain in place on 'sensitive products', including horticultural goods. In addition, non-tariff barriers are often used to limit trade in horticultural products.

Both the EU and the UK also have many bilateral agreements covering technical aspects of trade. Some UK agreements rely on the fact that they are subject to EU rules and regulations. Many of these bilateral agreements will require renegotiation to reflect the new situation, and failure to do so could close off trade with the countries involved.

Non-tariff barriers include sanitary and phytosanitary (SPS) measures and technical barriers to trade. SPS measures are used to protect human, animal or plant life or health. Technical barriers are often deemed

necessary for environmental protection, safety, national security or consumer information. In practice, these measures are often the hardest to agree in trade negotiations.

Trans-shipment, the unloading of goods from one ship and loading into another to complete a journey, is significant for many UK exports. The most important port involved is Rotterdam in the Netherlands. This gives rise to the so-called 'Rotterdam effect' – the theory that recorded trade with the Netherlands is artificially inflated by goods routed through Rotterdam.

This can distort views of the UK's trade relationship with EU and non-EU countries, by increasing reported trade with the EU and reducing it with non-EU countries.

Most of the UK horticulture sector is focused on the domestic market, so its exports are minimal. Total UK exports of fruit and vegetables were valued at just £199 million in 2015, less than four per cent of the value of imports. This figure includes re-exports, so the importance of exports to the UK sector will be lower still. Exports of ornamentals totalled £56 million, also a fraction of the value of imports.

## British florists suffer from Brexit consequences

**B**ritish florists are in trouble and have in some cases even been brought to their knees. Since Brexit flowers have become more expensive and, in addition, the pound has lost some value in relation to the euro.

We spoke with two florists in the country and asked them about their findings. The one who runs a flower stall in the provincial town of Northampton, says that he can barely keep his head above water. "Prices aren't as high as just after the elections, but I think that they're 15% higher on average." She indicates her willingness to keep at it

for another year, but if the situation does not improve, she will (have to) stop.

Another florist, Damian Duffy, who runs a flower shop in Watford, is more optimistic. He was and is in favour of Brexit and, even though he also cannot escape the price increases, he is confident that there will be a recovery. "The Netherlands and the rest of the EU aren't irreplaceable" and if the old balance in the market is not restored, "I'm going to focus on other purchase markets in the longer term. For example, I know that South America, South Africa, India and China also produce beautiful flowers."

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- Facilitates Fecundation, increases fruit, pod, and seed development, increases yield and also enhances the cosmetic value of the produce.
- Strengthens plant and improves defense mechanism to fight against abiotic and biotic stresses.
- Eventually VIGO™ usage leads to increased return on investment to the growers.

CROPS	Dose rate	Timing of Application
Roses,	2mls/litre of water 2lts/ha	Apply at any stage of crop growth, repeat 2-3 times, or on need basis.
Snow peas, Garden peas, Fine beans, Runner beans	2mls/litre of water 2lt/ha	2-3 times from pre-blossoming repeat at 15 day intervals.
Broccoli, Tender stem broccoli	2mls/litre of water 2lt/ha	Apply at any stage of crop growth, repeat 2-3 times on need basis
Tomatoes	2mls/litre of water 2lt/ha	From transplanting till harvest starts
Cabbages	2mls/litre of water 2lt/ha	Every 15days after transplanting



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# Valentine's Day Breaks Records

*'I love you', 'I care for you', or simply—'you are a great friend'.*

**V**alentine's Day is the perfect occasion to show your partner, family or friend just how special they are. Flowers have a long history of being the ideal gift whether you are celebrating 30 years of marriage, have just started to date someone or want to show your friend you appreciate them.

"The beauty of flowers as a Valentine's Day gift is that they can easily be personalized depending on how you want to make someone feel" said Dejan Kristan, marketing director at Flowers Canada (Ontario). "You want to send out the right message to your Valentine, whether it is 'I love you', 'I care for you', or simply—'you are a great friend'".

**Red:** Undoubtedly the colour of passion. Giving out a red flower arrangement will communicate your strong and powerful love. With a colour the same as the heart, red means seduction, desire and passion. Try red roses, red gerbera daisies or red tulips.

**Valentine's Day breaks records Again**  
Valentine's Day is celebrated in many countries and is an important holiday for the flower industry. For weeks, growers, importers, cargo agencies and auctions were busy delivering the flowers on time at their destination.

In the US, billions of flowers were flown into the country and most arrived in Miami from Colombia, Ecuador, Mexico and the

Netherlands. More than 90 percent of imported flowers move through Miami International Airport.

Also Kenya exported many flowers this year and even exported a record number of roses to Australia this Valentine's Day. ABC News reported that figures from the Federal Department of Agriculture show that Australia imported more than 9 million rose stems this month, with the majority sourced from Kenya. In February, more than 5.22 million rose stems were imported from Kenya, up by nearly 850,000 roses in the same period last year. It is understood to be a record for the Kenyan rose trade to Australia

**Valentine's Day 2017: More or less sales?**  
Since 2014, Valentine was finally celebrated on a weekday; a Tuesday. This provokes the question: was it profitable for the flower business or not? Generally, it can be noticed that many flower importers and florists were positive about this.

**High expectations**  
The demand for Isreali Rusci a Colombian grower; Valentine's Days on a weekday are often advantageous for people in the flower industry. "It often results in better sales", he says.

Kenyan rose grower Peter Viljoen of Sunland Roses, who exports roses all over the world, adds: "I think that people, and men in

particular, are probably more on the street on a weekday and then more easily pass by and enter a flower shop."

Also the Australia cut flower and foliage industry is excited about this year's Valentine's Day.

**High prices**  
And the high demand led to high prices and this is visible at the Dutch FloraHolland auction. On the preceeding Friday, the auction's CEO, Lucas Vos announced a record price for the Red Naomi rose at the auction. He posted the following message on Twitter: "Today, Red Naomi sold for 5,95 euro. How much will it be in retail?"

**Valentine's Day 2017: facts and figures**  
Valentine's Day, the turnover was € 142 million. This is the highest turnover ever recorded in the history of Royal FloraHolland.

FloraMondo also realised a new turnover record. Almost €6 million were traded via FloraMondo. Valentine's Day is more a flower event than a plant event. The flower turnover was almost €100 million, the highest ever turnover for flowers in one week. Turnover grew by 9% compared with week 6 in 2016. The number of items declined by 5%, while the average price rose by 15%.

**300 million stems**  
Of the total supply of 300 million stems of cut flowers, one-third consisted of roses, one-third of tulips and one-third for the rest of the assortment. The supply of tulips and roses was under pressure: the supply of roses decreased by 8%, the supply of tulips by 11%. The majority of the roses came from abroad, only



## Farmers, Wholesalers Felt Love This Valentine's Day

**B**y all reports, Valentine's Day 2017 was a success. Overall, fresh flower sales were up over 2016, according to a survey by the Wholesale Florist & Florist Supplier Association (WF&WFSA). Survey results also showed:

- Thirty-eight percent of respondents said sales were up more than 10 percent.
- Almost 9 percent said sales were up 20 percent or more.

- Rose prices were flat as compared to 2016, but 83 percent said more roses were sold in 2017 than in 2016.
- Pre-book sales for roses were up in 2017, with 53 percent saying sales were better than last year.
- Greens had a strong showing, with almost 50 percent of respondents reporting increases in sales.



20% of the total supply of roses came from the Netherlands.

### Germany: "Valentine's Day becomes more colorful"

In the run-up to Valentine's Day, cold, snow and ice hampered the buying mood of retailers in some regions in Germany, auction prices for the red roses were high - till the Monday before the holiday and the expectations of the wholesalers were low. Flower wholesalers that placed pre-orders seemed to partly profit from their preliminary planning.

This, in a nutshell, was revealed by a survey conducted by the Association of the German Flower Wholesale and Import Trade (BGI), a national interest group of the German cut flower and pot plant wholesalers and import dealers, among its members.

#### Demand for spring products

"This time neither the weather nor the carnival or a volcanic eruption has crossed our way," a wholesaler in South Germany told the GBI. According to the traders, the fact that Valentine's Day fell on a weekday encouraged consumers not only to buy flowers for private use, but also as an appreciation to employees and colleagues. In the west and in the center of Germany, the wholesalers noticed a high demand for the red rose, despite the high prices. However, this year's Valentine's day was "more colorful".

All in all, the wholesalers realized that the Valentine's purchases were focusing strongly on cut flowers this year, but some retailers also reported the first sales of outdoor products for the spring garden. Room plants seemed to be less in demand this year.

### All in all we had a good Valentine period

Some growers said that all the work related to Valentine's Day had already been done by the beginning of week 6.

### Ethiopia: Affected by weather

Unfortunately, reports from Ethiopia weren't as positive. Production over there has been bad because of the long period of low temperatures.

"Up until four weeks to, the higher altitude areas were still getting quite a few frosty mornings. There were lots of blind shoots, there were only few roses to cut, but the prices were good. It's hard these days to meet the demand and we've even had to buy additional supply. All in all, it was good.

### Kenya: Good Valentine

At the moment, there was no shortage at all in Kenya. They had good weather and supply was as expected.

"We cut everything back last November, hoping to get a good flush of Red Naomi. I'm happy to say that our expectations were met.

We ended up with good quantities, both for the auction clock and for our direct customers. Prices and quality were all good. Last year was a bit disappointing, but not this time around," said a grower.

Timafloor's Simon van der Burg confirmed that each year is different. Supply at the auctions wasn't excessive and still, the prices weren't great. Red was the only colour that was sold at prices similar to last year. Everything else was 5 to 10 cents cheaper.

"Valentine day prices suddenly went up by 4 to 6 cents. Purchases were made more and more at the last minute, so prices went up in the last couple of days."

Van der Burg has noticed that Kenyan growers say their production has gone down. "But there have been more charter flights than ever before. So all in all, it a good Valentine period."

## Valentine's Day Assured Revenue Growth in Second Period Of 2017

Period 2 of 2017 was good for 3.5% more revenue than this time last year due to the great sales around Valentine's Day.

In the run up to Valentine's Day, we realised in week 6 was the highest weekly turnover ever achieved at the auction. In the first and last weeks of the period, the revenue development was just average. And because Valentine's Day is more of a flower event than a plant event, the greatest upward trend was evident in the turnover of flowers. A higher price level laid the basis. In cumulative terms, the revenue growth for 2017 is now 0.7%.

#### Share of direct trade remained 36%

The share of cut flowers remained the same in this period. There were only slight changes at the product level. The share of tulips declined, while products like freesia and gerbera improved slightly. But on balance the share of direct trade remained at 36%.

#### Export value rose 11%

The export figures for January 2017 (source: Floridata) displayed a strong growth of 11%. The export of cut flowers grew a bit more (+14%) than that of plants (+8%). The drop in

exports to the UK was 5%, rather than 10% as in the second half of 2016. One striking element is the growth in export to Russia. After years of falling figures of up to 30% on a monthly basis, the export to Russia increased by 38%, for both flowers and houseplants. The question is whether this is a one-off occurrence or the first sign of recovery. Royal FloraHolland realised a growth in turnover of 11% in January. Thus, the auction's revenue growth nicely reflects the growth in exports.

#### Price level of cut flowers rose 12%

Among cut flowers the revenue increased by 4%. The supply declined by 6% while the average price level rose by almost 12%. The influence of Valentine's Days is clearly visible. The supply of the top four products decreased: roses because of the colder weather in Africa, tulips because there were fewer suppliers, and chrysanthemums and lilies because the English Mother's Day was 3 weeks later. Gerbera experienced an increase in supply, while the supply of lisianthus grew by almost 10%. Almost all products were sold for a higher average price. Only freesia lagged behind, with a slight decline.

## Kenya Airways prepare for direct flights to US

**K**enya's fresh produce growers have something to smile of. Kenyan airways are expected to start making direct flights to the United States, after the US Federal Aviation Administration issued Kenya with a certificate of security and safety clearance.

The clearance follows a successful audit of the Jomo Kenyatta International Airport (JKIA), the largest airport in Kenya, by the International Civil Aviation Organization to determine if it meets the necessary international standards.

The announcement was made by Kenya's Cabinet Secretary for Transport, James Macharia, who called on Kenya Airways, Kenya's national carrier, to "immediately apply for approval to codeshare with US airlines while concurrently pursuing approval for direct flights."

Welcoming the safety clearance, Kenya's Cabinet Secretary for Treasury, Henry Rotich, said direct flights between Kenya and the United States will have a favorable impact on Kenya's tourism and business sectors.

Flower growers interviewed by *Floriculture* welcomed the clearance. "The US market is big and we expect to benefit from it", said a grower. Adding, "We have been selling uncompetitively due to high freight charges.

Direct flights will reduce this". Kenyan flowers have been going through Europe or South Africa to get to the US market. This has made them less competitive compared to South Americans which are next door.



Speaking exclusively to *Floriculture*, Ms Jane Ngige, the CEO Kenya Flower Council said Kenya's flower production quality and audit standards are the best in the world and therefore they may not face any serious competition. However she said more market study was needed to establish the type of varieties the US Market needs. The Kenyan government has welcomed

the security approval by the United States, saying it is a result of sustained cooperation between the two countries in many areas, such as security, exports, imports, and tourism.

For its part, Kenya Airways has welcomed the security clearance, saying it is ready to "immediately"

start flying passengers directly to the United States.

The airline's outgoing CEO Mbuvi Ngunze said their priority is to pursue codeshare arrangements with their partners in the Skyteam Alliance to make sure they begin direct flights to the United States soonest.

### KQ Cargo exports Kenyan flowers to Australia

**K**enya Airways Cargo (KQ Cargo) has begun exporting Kenyan cut flowers to Australia.

According to a market research conducted, Sydney and Melbourne were identified as key markets for Kenyan flowers. KQ Cargo is targeting to lift over 30 tonnes of flowers into Australia per month as part of revenue improvement in the ongoing Operation Pride.

The airline has partnered with Australia's largest airline and flag bearer Qantas Airways.

Commenting on the new service, KQ Cargo sales manager Patricia Odida noted that Kenya Airways flourishing relationship with the Australian airline

has enabled the success of the new service to uplift flowers via Johannesburg into Sydney and Melbourne.

"This is a major game changer for Kenya, in terms of increasing trade exports of flowers to nontraditional markets. This partnership opens up the Australian market for exporters and is a business opportunity for us to generate revenue," she said.

"Previously exporters relied on other carriers, but when we got into an interline agreement with Qantas, we have seen the market grow and demand is steadily increasing. We are now working on an additional gateway through Bangkok." KQ Cargo continues to pursue more opportunities in the fast-growing flower business in the Far East countries including China.

## 'Kenyan roses not replacing those from South America'

**R**oses with long stems, large head sizes and a good quality. In Russia, this is how they used to describe a rose. However, their perception and requirements regarding roses changed when Kenyan roses with intermediate head sizes entered the market. Partly due to the crisis, the demand for these types of roses increased; Since January 2016, volumes to Russia and former soviet countries have increased six fold.

### Intermediate head sizes

Russians used to go for South American roses, the ones with long stems, large head sizes and good quality. However, the demand for Kenyan roses and roses

with intermediate head sizes in particular increased sharply. "Kenya also produces large head roses, but often cannot meet the quality of these South American roses. Quality is a major requirement for the Russian buyers, but due to the crisis, prices became an important requirement too. And the intermediate head sized roses combine both; they have good quality and can be supplied for lower prices. And the same goes for the Kenyan spray roses. These types of roses are also well demanded.

### Different position

As these Kenyan roses are cheaper and have high quality, will they overtake the position of the South American roses? According to experts, they will not. "The

Kenyan roses are used for different purposes. They are, for example, often used by florists to make the 'cheaper' compositions and by flower shop owners to attract buyers. They are promoting the Kenyan flowers on a sign outside their shop. These rose prices are lower than the rose prices that people are used to. It makes them curious.

### Trend to continue in 2017

For 2017, growers expect the positive trend of 2016 to continue. "We expect to increase our volumes to Russia and to explore new markets in Russia. Besides that, we would like to discover new markets in the former Soviet countries like Kazakhstan, Belarus, Moldova and Kyrgyzstan", says a grower.

## Kisima introduces new Bi-color rose *No Limit*

**K**isima launched *No Limit* at Royal FloraHolland in Aalsmeer. Kisima plants this variety in Timau and will supply length of 40 till 70 cm. Fresco Flowers - located in Aalsmeer- will take care of the unpacking, control and sales of *No Limit*. *No Limit* has a beautiful striking pink/white



color combination. *No Limit* has a strong vase life, good transportability and unique presentation during sales and in the vase.

*No Limit* is developed by Select Breeding. Select Breeding is specialized in the development of medium and T-hybrid cut roses.

## Women's Day: Shorter stem roses

**C**olored roses with shorter stems of 35 and 40cm with a head size of 4 to 4.5 cm were the most demanded flowers in this year's Women's Day in Russia. Since February 21, many Kenyan rose farms were busy with their Women's Day shipments.

It is considered to be the biggest day for flower sellers in Russia, so the demand for flowers, and in particular roses, is always high, which means good prices for many growers.

Even though the financial situation in Russia seems to be improving, people are still looking for the more affordable options. "They used to buy the large stem roses before the crises, but now they seem to prefer the shorter stems. Besides that, there is also an increase in demand for the spray roses this year.



## United Selections holds annual open days in Ethiopia

**O**n Thursday 2nd of March and Friday 3rd of March 2017, United Selections had their annual open days at Joytech, Ethiopia. They show cased a new range of varieties on the two days.

The showhouse ready and on flush. Growers were warmly welcomed to learn more about the new assortment for the Ethiopian market!

Going by previous years, the breeder was happy with the attendance and hoped this will turn into a conversion.

## FloraHolland to open new facilities in China

This year, Royal FloraHolland, the leading Dutch floral cooperative formed in 1911, will open new facilities in Guangzhou and Beijing.

Its trade mission to Shanghai in 2015 spawned strong new links with the Chinese cut flower industry, and led to the creation of the first facility close to Pudong International Airport in Shanghai in 2016.

Royal FloraHolland's newest facility in Guangzhou will be its most important move in China to date. Guangzhou's direct connection to Nairobi will allow flowers from Kenya to be delivered straight to China, resulting in a shorter cool chain line and faster delivery for world-class flowers.

"It is our goal to deliver quality," stressed Lucas Vos, CEO of Royal FloraHolland, "with Chinese-grown flowers combined with internationally grown flora."

"We thoroughly enjoy working with China because the country has a rich tradition of gifting and festivals," said Guido de Wit, program director of the Amsterdam-based World Flower Exchange. "Our Chinese customers recognize a rich range of symbolism and meanings associated with different flowers."

"It challenges us to be aware of multicultural differences, so we can meet the demand for flowers together with our Chinese partners," he continued. "We also receive a tremendous number of online reviews from our customers in China, who appreciate our commitment to quality and beautiful big headed flowers."

Royal FloraHolland boasts on-time delivery as well as a seven-day guarantee for customers. With the response from the Chinese market and satisfied clients, it fully expects its business in China to continue to bloom.

## Rwanda seeks to increase flower exports

A narrow export base and declining volumes, coupled with the widening trade deficit driven by the mismatch between import bills and export receipts, have been one of the biggest challenges for Rwandan government strategists and the private sector.

With the international commodity prices dropping and the continued poor performance of the global economy, Rwanda's traditional markets in Europe, China and America scaled down on imports, hurting the country's export receipts.

The government and private sector players have over the past two years been working more closely to find ways of improving the country's exports and reduce the import bill. There are so far many initiatives that are already in place to achieve this, export promotion and diversification.

Under the export diversification strategy, flower growing has been identified as one of the areas that can help the government achieve its target in a short time.

Already, the country's flagship project, Gishari Flower Park in Rwamagana, could start flower exports. NAEB's Bella Flowers kicked off raising hopes that the sector could boost exports in 2017. Bloom Hills Rwanda, a Japanese flower export firm based in Musanze District, has also started flower exports. The sector earned \$56 million during the first 10 months of 2016, according to NAEB statistics





## Valentine with Interplant: Simplicity at its best!

During Valentine, it's rush hour for all our beloved rose growers worldwide. It's the time of the year where millions of roses are being sold when lovers take the opportunity to express their feelings to one another! Interplant has many varieties suited for Valentine Bouquets, however, this year we chose to show you Simplicity at its Best! customers enjoyed our lovely hybrid-tea variety *Explorer*, an absolute star amongst red rose varieties and rapidly conquering the world at the moment.

### ONE NAME. ONE VISION. ONE BOOTH.

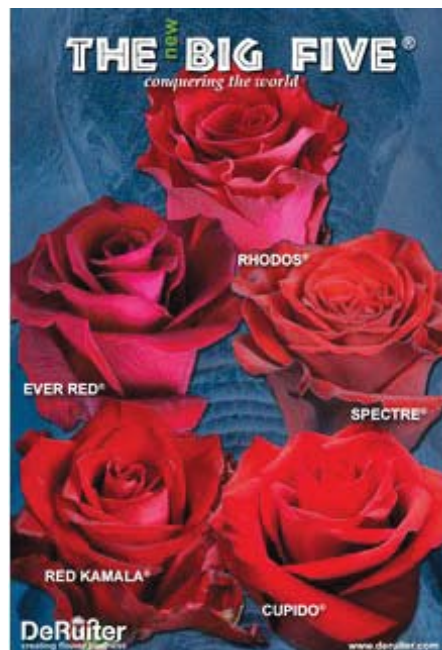


The complete Dümmen Orange Portfolio served together first time on one booth in hall 2. The team was happy to tour customers through the world of Pot Plants, Annuals, Perennial, Cutflowers, Succulent and Bulbs and enjoyed to have a nice Coffee together with growers.

## Royal De Ruiter launches 'The Big Five' promotion campaign

The Big Five®. You might think of the five most beautiful African animals first, but now, it also represents the top red rose varieties of Royal De Ruiter. In their so-called 'The (new) Big Five' campaign, Royal De Ruiter promotes their five best red rose varieties; Rhodos, Ever Red, Spectre, Red Kamala and the most recent introduction Cupido. These are being produced in De Ruiter's production areas in South America, Africa and Europe.

"The relevance from a marketing perspective is awesome", says Örfan Hulshof Sales and Marketing Manager of the company. "The campaign supports growers, traders and florists who are dealing with these varieties during the Valentine's period, but also for the long-term."



## Beautiful new numbers by Kordes Roses



Rose growers from across the East African region are naturally clamoring for new interesting varieties to include in their production lines. Kordes Roses' new codes have drawn a lot of interest from growers. Most have visited their Naivasha farm recently and discussed some of the varieties that are quite promising. These varieties have been the most popular in

trial selections inline with indications that growers are looking for larger head sizes without compromising on production.

Commercial testing of new varieties in East Africa is facilitated at 'Kreative Roses', the Kordes production company at Naivasha. There, new variety selections are planted in commercial trials in order to prove technical characteristics and market potential, offering customers reliable information as a basis for new variety decisions.



# 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
Blooming Dale Roses Kenya Ltd	Flowers	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms		Nakuru	Shivaji	0720895911	shivaniiket@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	Vincent	0721652231	colourcrops@tmu.com
Colour crops	Flowers	Nakuru	Maina	0722578684	bahati@colourcrops.com
Colour crops Naivasha	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Credible Blooms	Flowers	Rumuruti	Emeritus Kasee	0722681727	
Credible Blooms	Flowers	Ngong	Eliud	0722382859	
Dale Flora	Flowers	Nakuru	Shivaji	0720895911	shivaniiket@yahoo.com
Delemere Pivot	Vegetables	Naivasha	Daniel Ondiek	0720395963	daniel.ondiek@vegpro-group.com
Desire Flowers	Flowers	Isinya	Rajat Chaoohan	0724264653	rajatchaoohan@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	Tom Lawrence	0722312577	tom@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	japhet.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	Wafula Lucas		floraolaltd@gmail.com
Flora Delight	Summer flowers	Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke
Florenza	Roses	Nakuru	Yogesh	0715817369	



# FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Fontana Ltd-Salgaa	Roses	Nakuru	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd	Roses	Nakuru	Girrish Appana	0726089555	production@fontana.co.ke
Fontana Ltd - Akina farm	Roses	Nakuru	-	-	-
Fontana Ltd - Ayana Farm	Roses	Nakuru	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	Nakuru	-	-	-
Golden Tulip ( Laurel Inter.)	Roses	Nakuru	-	-	-
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	Jairus Oloo	-	-
Highland plantations	Cuttings & Herbs	Olkalou	Amos Mwaura	0726726392	production@highlandplants.co.ke
Imani Flowers	Flowers	Nakuru	Moses	0722977214	
Indu Farm		Naivasha	Wesley Koech	0715546908	
Indu -Olerai Farm		Nakuru	Everline 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
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	Missire	0754444629	maheevf@eaga.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflores.com
Maua Agritech	Flowers	Isinya	Madan Chavan	0738669799	production@mauaagritech.com
Mauflora	Roses	Nakuru	Mahesh	0787765684	mahesh@mauflora.co.ke
Milmet/Tindress Farms	Flowers	Nakuru	Pravin		pravinyadav.29@gmail.com
Molo Greens	Flowers	Nakuru	Justus Metho	0722 755396	justus@mologreens.com
Mt Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395,	bob@mtelgon.com



# FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Mweiga Blooms	Flowers	Nanyuki	Stewart/ Mburu	0721674355	mweigablooms@wananchi.com
Mzuurie Flowers - Maji Mazuri	Flowers	Eldoret	Wilfred Munyao	0725848912	wmunyao@majimazuri.co.ke
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	Flowera	Bahati	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Nini Farms	Roses	Naivasha	Philip Kuria	0720611623	production@ninitld.com
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
OI Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Olij Kenya Ltd	Roses	Naivasha	Sally Nicholas	0737888028	v.bhosale@olijkenya.com
Oserian	Flowers	Naivasha	Musyoka Stephen	0722888377	stephen.musyoka@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	-	-	porini@isinyaroses.com
PP Flora	Roses	Nakuru	Robert /Prakash	0718045200	ppflora2010@gmail.com
Primarosa Flowers Ltd	Flowers	Athi RiVer	-	-	-
Primarosa - Zuri Farm	Roses	Oljororok	-	-	-
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	Anand Shah		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	-	-	-
Schreus	Roses	Naivasha	Haiko Backer		
Shades Horticulture	Flowers	Isinya	Mishra	0722972018	info@shadeshorticulture.com
Shalimar Flowers	Flowers	Naivasha	Anabarasan	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
Timaflo Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflo.com
Transebel		Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke





# FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
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	Raghubir Sandhu	Ntemagalo Wakiso	0772 72 55 67	pearl@utlonline.co.ug
Roses	Aurum flowers	Kunal Lodhia Shiva	Bulega, Katabi Wakiso	0752 733 578	kunal@ucl.biz
Roses	Eruma roses	Kazibwe Lawrence	Mukono	0776 049987	kazibwe@erumaroses.com
Roses	Uga rose	Grace Mugisha	Katabi Wakiso	0772 452 425	ugarose@infocom.co.ug
Roses	Kajjansi	K.K rai	Kitende Wakiso	0752 722 128	kkrai@kajjansi-roses.com
Roses	Uganda Hortech	M.D hedge	Lugazi Mukono	0703 666 301	mdhedge@mehtagroup.com
Chrysanthemums	Fiduga	Jacques Schrier	Kiringente , Mpingi	0772 765 555	j.scherier@fiduga.com
Chrysanthemums	Royal Van Zanten	Jabber Abdul	Namaiba Mukono	0759 330 350	j.Abdul@royalvanzanten.com
Impatiens, poinsetia	Wagagai	Olav Boenders	Iwaka Bufulu Wakiso	0712 727377	olav@wagagai.com
Chrysanthemums	xclusive cuttings	Peter Benders	Gayaza- Zirowe rd	0757 777 700	pbenders@xclusiveuganda.com

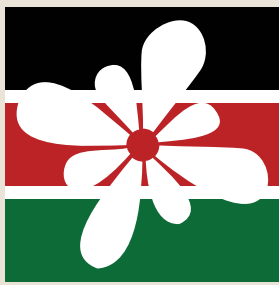
## FLOWER FARMS IN TANZANIA

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



# FLOWER FARMS IN ETHIOPIA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Linsen flowers	Peter Linsen	Holeta		Elinsenroset@ethionet.et
Roses	Hanjia	Holeta	0922 750602	Peter.Pardoen@karuturi.com	
Roses	Alliance flowers	Navale	Holeta		navele@nehainternational.com
Roses	Ethio dream Rishi	Holeta	Ethiopia	011 23 72335	holeta@jittuhorticulture.com
Roses	Holeta Roses Navale	Holeta	Ethiopia		navale@nehainternational.com
Roses	Supra Flowers	Kaka Shinde	Holeta	0911 353187	kakashind@rediffmail.com
Roses	Agriflora	M. Asokan	Holeta	0922 397760	flowers@ethionet.et
Roses	Ethio- Agricerft	Alazar	Holeta	0910 922 312	alazar@yahoo.com
Roses	Addisfloracom P.L.C	Kitema Mihret	Holeta	0912 264190	tasfaw@addisflora.com
Roses	Enyi- Ethio	Teshale	Sebata	0911 464629	enyi@ethionet.et
Roses	Lafto Roses	Andrew Wanjala	Sebata	0922 116 184	irrigation@laftorose.com
Roses	Eden Roses	Vibhav Agarwal	Sebata	0930 011228	vaibhavaggarwal1@hotmail.com
Roses	Ethio-passion	-	Sebata	0911 511 711	roshanmuthappa811@gmail.com
Roses	Golden Rose	Mr. Sunil	Sebata		
Roses	E.T Highlands		Sebata	0 911 50 21 47	bnf2etf@ethionet.et
Roses	Sharon Flowers		Sebata		saronfarm@ethionet.et
Roses	Selam Flowers	Etsegenet Shitaye	Sebata	0913 198440	etstgshita@yahoo.com
Roses	Joy Tech	mulugeta Meles	Debra Zyeit	0911 302804	mulugeta@joytechplc.com
Roses	Dugda floroliculture	sayalfe Adane	Debra Zyeit	0911 50 48 93	general@dugdaflora.com.et
Roses	Minaye flowers	Eyob Kabebe	Debra Zyeit	011-3728667/8/9	minayefarm@ethionet.et
Roses	Bukito Flowers	Anteneh Tesfaye	Debra Zyeit	0911 615571	
Roses	oilij	Bas Van der lee	Debra Zyeit	0911 507 307	b.vanderlee@oilijethiopia.com
Roses	Yassin Flowers	Tesfaye Gidissa	Debra zyeit	0911 89 78 56	kemevision@yahoo.com
Roses	Z. K Flowers	Abebe Mamo	Debra zyeit	0911 52 65 29	abemic/2006@yahoo.com
Roses	Friendship flowers	Edwin	Debra zyeit	(251)91 130 49 67	friendship.flowers@yahoo.com
oses	Evergreen farm	Hiwot	Debra zyeit	0912 18 5065	Hiwot.Ayaneh@yahoo.com
Roses	Rainbow colours	Tadessa Kelbessa	Debra zyeit	0911 389 729	rainfarm@yahoo.com
Roses	Sher	Ramesh Patil	Ziway	0912 131940	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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