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### **The Leading Floriculture Magazine**

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### Editorial

### Make cool, keep cool and, if necessary, re-cool

Already a trailblazer in global horticulture, Kenya has achieved tremendous export growth over the last two decades. Horticulture – with fresh-cut flowers holding first place in export volumes – has become one of the country's biggest earners, providing many thousands of Kenyans with jobs and income. Kenya has become the leading producer of roses for the European market and a major supplier of other varieties.

This rapid growth, however, has put increasing pressure on the supply chain. While production continues to flourish, Western Europe's cut flower markets are showing signs of saturation, with annual growth settling at a moderate 2 to 4%. A major shift in purchasing power – from wholesalers and the Dutch auction system towards large and demanding mass-market retailers – is also contributing to the general sense that the industry is facing dramatic change. This calls for the sector to address to cold chain management.

Quite a number of easily preventable quality issues still persist: damaged flowers, bent stems, petal blueing, individual blooms or bouquets with differing opening stages, flowers that don't open at all in the vase, and a short vase life.

In order to maintain their competitive edge over competitors both near and far in the global flower industry, growers need to deal with these trouble spots



by focusing on strategic, technological and structural innovations, as well as supply chain performance improvements.

Ideally, there is need to reduce supply chain costs, achieve a longer vase life for flowers, increase value-for-money for consumers, and increase sustainability in terms of a lighter carbon footprint and reduced product and packaging wastage.

As we address these issues, let us enjoy a logistical end of 2017.

Merry Christmas and happy 2018

Masila Kanyingi



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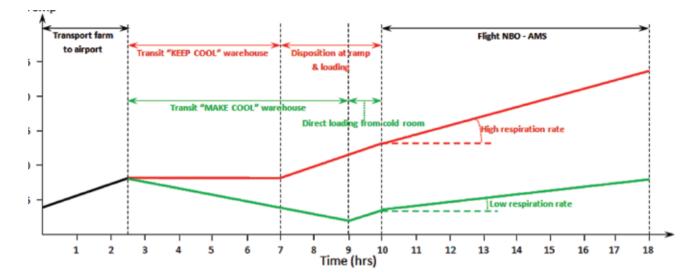
• The product is already registered in Kenya, and is under label extension for **Coffee** and **Roses** 





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Cover story



## Excellence in cold chain management

### When boxes are stacked against each other the cold air flow cannot reach the inner boxes.

### Scientific facts in cold chain management

Although a scientific approach of postharvest technology for fruits, vegetables and flowers goes back to the 1970's, many partners in the logistic chain still lack awareness and knowledge of basic principles. All efforts that the producer has made to reach top quality products may be lost within 24 hours by mismanagement of the cold chain. The small gain made by saving on the cold chain is negligible compared to the loss of value it will cause. Proper cold chain management from farm till buyer is an essential condition for the preservation of the quality and the value of a perishable product.

### The respiratory metabolism

Cut flowers, harvested fruits and vegetables are still alive and carry on characteristic processes of all living things. The most important process is the respiratory metabolism. It is a natural process of ripening, senescence and deterioration of the plant. The bio-chemical reaction (for 1 mole):  $C_6H_{12}O_6 + 6O_2 + 6CO_2$ + 6H<sub>o</sub>O + 686 kcal 294 kcal of the produced energy is used for internal processes but 392 kcal is heat. Cut flowers, beans and the vast majority of Kenyan fresh produce are climacteric plants and have a very high respiration rate. The respiration is triggered by ethylene, a self-regulatory hormone produced by the plant itself.

Without a doubt the most important factor affecting postharvest life is temperature. The temperature has a profound effect on the rates of biological reactions, the metabolism and the respiration. Increased temperatures cause an exponential rise in respiration. The "Van't Hoff" rule states that the velocity of a biological reaction increases 2 to 3-fold for every 10°C rise in temperature.

At 0°C the respiration ceases. But storing fresh products at freezing point may cause damage. Freight forwaders should maintain and monitor a constant temperature of 2°C, avoiding frost damage but keeping the respiration at very low rate.

As the respiratory metabolism is an exothermic reaction (producing heat) and the process rate is not a linear but an exponential function of the temperature, it is of major importance to keep the temperature as low as possible. In particular during periods of little or no temperature control (trucking, flight) a low temperature at the start of the period is mandatory. The diagram on the next page shows clearly the cumulative effect of a high start temperature and the increased respiration rate at high temperatures. A load at 2°C may increase to 5.5°C over a period of 8 hours; a load starting at 17°C will increase to 32°C.



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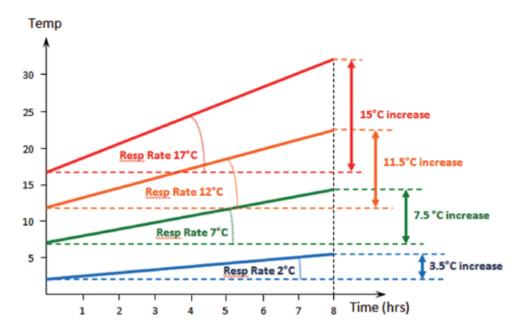
### From page 6

### "Make Cool" and "Keep Cool"

Cold chain management is not just an initial condition but requires permanent care from harvesting to final consumption. As ripening, senescence and fungal and bacterial infections arise whenever the temperature goes up, cold chain management is a sequence of "making cool", "keeping cool" and "making cool again".

The design of a "make cool" cold store is different from a normal "keep cool" facility. Much more critical parameters have to be considered. The room must have sufficient volume and have sufficient refrigerators. The dimensional layout and the positioning of the refrigerators must create a strong, steady and equal spread flow of cold air. Before design and construction, Freight forwaders cold facilities should be based on academic research, practical knowledge in cold chain management and years of experience in construction technology of cold store facilities.

Apart from adequate facilities

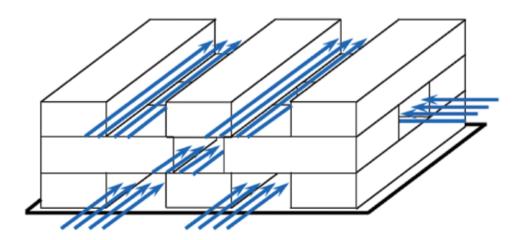


there is need to implement proper procedures on the handling of the perishables. Upon acceptance at the premises boxes should be stack on small aluminium pallets leaving wide tunnels for the cooling air flow. With spacious cold store, pallets should be stored separately, not adjacent to each other. If delivery deadlines are respected temperatures of the fresh produce should be brought back to 2°C before build up on the ULD. In case of late delivery or extreme high temperature (ex. transit goods) shipments should be pre-cooled to 2°C in

### When boxes are stacked against each other the cold air flow cannot reach the inner boxes.

45 minutes. Good cold chain management requires attention to the details, ULD's should be cooled before build up.

Another important advantage of the steady cool air flow



is the ventilation. Flowers, fruits and vegetables produce ethylene gas and the respiratory metabolism produces water. Germs of bacterial and fungal infection may already be present before harvest. (botrytis, anthracnose a .o.) They may be in a state of dormancy and will occur when the conditions are ideal to develop. Harvested plants have a reduced natural resistance against infections. In combination with the rise in temperature and the presence of moisture infection may arise quickly. The air flow will prevent condensation and create an unfavourable environment for infection development. Condensed moisture may also affect the strength of the packaging.

### Weak links in the cold chain

Unfortunately there are periods in the logistic chain with little control over the cold chain. Producing farms and final consumers are not located at the airport and airplanes have limited cooling capacities. When boxes are stacked

Cover story

against each other the cold air flow cannot reach the inner boxes. As the respiratory metabolism is a self-regulatory chemical reaction, the process heat will cumulate inside of the stack. This fact emphasizes the importance of a low starting temperature and the need of a corrective "make cool again" period at the end of the weak link.

Upon arrival of the trucks at the acceptance area high temperatures are registered despite the fact that the trucks are refrigerated. Obviously no one can undo past processes but the progress of the biochemical reactions can be stopped. Within a normal transit at the facilities the temperature can be brought back to 2°C prior start of build up for the flight.

Once an aircraft pallet is built up with perishables, even when stored in a cold environment, you can only control the outside of the pallet. The processes inside the pallet are not controllable anymore. Hence you cannot build pallets too long in advance of the flight and build up should be done in perfect temperature conditions.

It is of great importance to reduce the uncontrollable periods in the logistic chain. On board of the aircraft, where pallets are adjacent to each other and the total mass is large, the air flow cannot penetrate to the middle of the pallets. Obviously a good cooling system in the aircraft can slow down the heat production but it cannot stop it. Logically the shorter the flight the less heating will occur. Direct non-stop flights perform better than flights that make a transit stop. An uncontrollable transit time, often minimized by second line handlers, is the transport to the cargo ramp and the line up before loading. As ULD's are towed by 4 or 5 each time this operation takes hours.

During this period goods are exposed to ambient temperatures and sometimes adverse weather conditions. The use of thermal covers has no efficiency as the heat and ethylene is produced inside the pallet. If flights are delayed the situation worsens. In case of cancellation the pallets need to be towed back to the second line cold store. Logically this will cause heavy consequences on the cold chain management.

It is adviseable to use facilities located airside, right in front of the cargo apron where loading is done. Loading can easily be done straight from the cold room to the aircraft. It the least time of goodwill from the loadmaster to enter the cold room and specify the loading sequence.

### Adding up the differences

Cold chain management is permanent care. Take preliminary action prior periods of poor control, make cool again when the temperature has increased, reduce the uncontrollable periods whenever possible and eliminate conditions for fungal or bacterial infections. Every care, even a minor attention, contributes to the preservation of quality and value of the product.

The airside location of the



cold store, the high standard facilities and the appropriate handling procedures should be considered before making decision on the best supplier of perishable handling services at the airport. The suppliers should be dedicated to cold chain management with activities restricted to the handling of perishable export. This will ensure no concerns and no conflicting deadlines with import traffic, general export or ramp handling.

### **Changing markets**

The supply chains of flowers and fresh produce are changing. Apart from the traditional sale through auctions to wholesalers and retailers, the direct sale to massmarket retailers has gained considerable importance. Mass-markets retailers often apply more stringent standards on quality and tend to focus more on quality and reliability than on price. The horticultural export industry is highly internationalized and the region faces permanent competition from leading producer countries like Colombia and Ecuador. Over the last years there has been a remarkable increase of cargo capacity, resulting in periodic overcapacity and reductions of the airfreight rates. Where most of the traditional carriers offered direct services some of the new players operate routes with a stopover. If pricing becomes the only ammunition on the battlefield of competition the horticultural export may become a war cemetery. Being fixated only on lower pricing it is hard to see that at the end of the supply chain the trend is for higher quality. With 40 years of experience in horticultural production and export Kenya has a considerable advantage to its neighbours when it comes to quality. But to keep a sustainable leading position on the market the Kenyan horticultural industry will have to cope with the demands for high standards at the end of the supply chain. More than pricing, quality and reliability are becoming the main criteria.

### Article Courtesy of Edited Presentation From Triple FFF and FlowerWatch Ltd Presentation

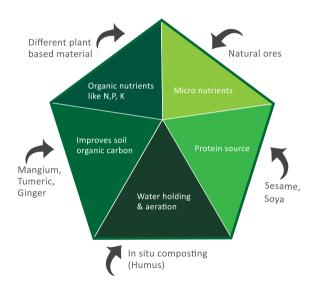
**GREEN HARVEST** is an organic soil conditioner prepared from cold pressed seed cakes. This product is a result of Vedic Wisdom with modern scientific studies in agriculture. **GREEN HARVEST** has been certified **Organic** by ECOCERT, and USDA NOP standards. The whole study is based on the sound footing of sustainability, promoting inter-relation and inter-dependence of all living things in nature. The use of Green Harvest enhances the bacterial activity in the soil resulting in increased soil fertility.

### **GREEN HARVEST** contains the following ingredients:

**GREEN HARVEST** gives the following benefits when applied to soil or substrates

- 1. Neem: Rich source of nitrogen
- 2. Pongamia: Source of phosphorous also known to improve soil porosity
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- 4. Castor: Rich source of potash
- 5. Mangium: Rich source of organic carbon
- 6. Shea: Source of phosphorous, potash & organic carbon
- 7. Sal: Source of organic carbon
- 8. Turmeric: Rich source of organic carbon
- 9. Rock Phosphate Natural Mineral: Rich source of phosphorous

- 10. Cashew: Source of potash
- 11. Magnesium Ore Natural Mineral: Rich source of magnesium
- 12. Silica Natural Mineral: Rich source of micronutrients
- 13. Sesame: Rich source of proteins
- 14. Ginger: Source of organic carbon
- 15. Mustard: Rich in phosphorous, potash and micronutrients including natural sulphur
- 16. Marigold extract: Rich source of organic carbon and phosphorous
- 17. Palm: Rich source of potash
- 18. Soya: Rich source of protein



The concept of 'in-situ composting' near the root zone

leads to formation of polysaccharides and humic acid, which is essential for better root development.

A raw protein substance along with polysaccharides and humic acid improves flora and fauna near the root zone, ensures adequate nutrient and micronutrient supply to the plants, for longer period in a sustainable manner.

The biodegradation of Green Harvest mixed to the soil starts within 2-3 days and it continues for 6 months and leads to the following:

- Improved soil structure
- Improved water holding capacity
- Increased aeration
- lmproved nutrient availability

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Rose - New Planting Soil & Hydroponics	2.5 Tonnes / Ha	
Rose - Top Dressing Soil	1 Tonne / Ha	
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French Beans	250 Kilo / Ha Reduce synthetic fertilizer rate by half	
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## Green Horvest

**GREEN HARVEST** is an organic soil conditioner prepared from cold pressed seed cakes. It has the following advantages:

- Improves soil structure
- Improves water holding capacity
- Increases aeration
- Improved nutrient availability
- It can be used on all crops

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GREEN HARVEST applied at 300gms per running metre on hard prunned beds showed:

- More shoots
- Longer stem length
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## New airplane adds capacity for Kenya-UK flower transport

Network Airline Management (NAM) – a division of the Network Aviation Group – and Astral Aviation have signed a long-term wet lease with Air Atlanta Icelandic adding a factory-built, nose-loader B747-400F to their existing managed fleet of three MD11Fs. This will enable NAM to develop their presence in Africa, and especially the Kenyan perishables market, adding capacity for flowers and vegetables from Nairobi to the UK.

Andy Leslie, Group Chairman, says, "We are excited to enter into this agreement with Astral Aviation and Air Atlanta Icelandic and look forward to a long and successful partnership enabling us to further expand our network."

Sanjeev Gadhia, Astral Aviation Founder and CEO, says, "The newly acquired B747-400F from Air Atlanta Icelandic will strengthen our position as a market-leader in perishable exports from Kenya to the UK market. Furthermore, the B747F will feed its intra-African network in Nairobi with cargo, which will be consolidated in its Liege hub originating from Europe and the US.

The B747-400F made its inaugural flight from Stansted (STN) to Jomo Kenyatta



International Airport (JKIA) in Nairobi on Tuesday 7th November expanding NAM's capacity to East Africa. The group expects to handle around 33,000 tonnes of perishable exports from East Africa to Europe per year. The nose-loader B747F will also enable the group to attract outsized oil, gas and mining equipment for West and East Africa, which is expected to increase following the high oil prices experienced during the past week.

Gadhia adds, "While most foreign carriers are reducing their capacity to Africa, Astral Aviation remains 'cautiously optimistic' of positive growth in perishable exports to Europe and a strong south-bound demand from Europe to West and East Africa, fuelled by the growth in consumer demand for e-commerce and oil and gas equipment due to the improved fuel-prices." He concludes, "According to IATA, African carriers had the fastest growth in yearon-year freight volumes. However, growth is set to remain in double digits for the remainder of 2017."

Baldvin M. Hermannsson, VP Sales and Marketing, Air Atlanta Icelandic, adds, "We are thrilled to start this new chapter in our wet leasing with our new, highly respected partners, Astral Aviation and NAM, and are pleased that our services and technology will improve their offerings to the industry."



## **TF** Lives to its Magic

The IFTF was in full swing. In a positive atmosphere, the exhibitors have had busy time. Because of the international orientation of the event, it's the ideal way of seeing existing clients and expanding one's international customer base.

Especially in these times, with many growers looking for direct contact, and with prices going up and down on the auction clocks.

Along this line, we're seeing increased trade initiatives at the show, facilitating direct contact between grower and buyer.

## FLOWEWATCH PICTORIAL

Flowerwatch did two trainings to growers on cold chain management. Below are photos from the first training. We will be doing a comprensive article after their last training on Friday 17th November 2017. We will also share the rest of the photos then. Do not miss this training. It will add a few dollars into your account.































## **Isoclast<sup>™</sup> Active!!---**The New Bright Solution

### Overview.

Isoclast<sup>™</sup> active (sulfoxaflor), discovered by and proprietary to Dow Agro Sciences, is the sole member of a new chemical class of insecticides, the sulfoximines in the chemical class 4C. Isoclast<sup>™</sup> is a multi-purpose, foliar-applied insecticide for control of a wide range of economically important sap-feeding insect pests including most species of aphids, jassids, whiteflies, leafhoppers, scales, mealybugs, plantbugs, planthoppers, stinkbugs and certain species of psyllids and thrips . It has been developed globally for use in major crop groups, including Roses, Carnations, Cotton, leafy and fruiting vegetables, apples, soybeans, rice (outside of the U.S.), cereals, citrus, cole crops, grapes, and other crops.

### Mode of Action and Resistance

Sulfoximines are insect nicotinic acetylcholine receptor (nAChR) agonists IRAC class 4C. Isoclast<sup>™</sup> has a unique mode of action as it exhibits complex and unique interactions with insect target site nicotinic acetylcholine receptors (nAChR), distinct from those observed with neonicotinoids.

Neonicotinoid resistance is due to enhanced Metabolism. Isoclast<sup>™</sup> active is not susceptible to this mechanism hence the risk of metabolic cross-resistance between Isoclast and other Group 4 insecticides is negligible and it is metabolized differently from other Group 4 insecticides.

#### Knockdown and Residual Activity of Isoclast<sup>™</sup> Active

Isoclast<sup>™</sup> active kills insect pests both on contact and through ingestion to provide both knockdown and residual control. Isoclast displays translaminar movement (moves to the opposite leaf surface) when applied to foliage and is xylem-mobile.

Symptoms of insect intoxication, which include muscle tremors and lack of coordination, may become evident within minutes of application, but maximum effect may not be seen in the field until 1-2 days after application. This fast action stops feeding damage and reduces the potential for transmission of disease organisms. Isoclast Provides excellent residual activity due to:

- Translaminar and systemic properties
- Rainfastness of 2 hours
- Stability under UV light
- Stability within a range of Ph of spray diluents.

### Isoclast<sup>™</sup> Active and Non-Target Organisms

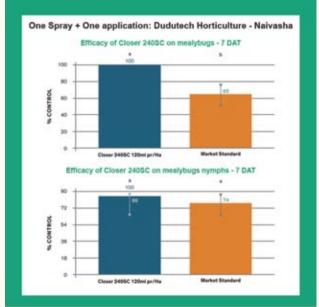
Isoclast<sup>™</sup> active does not persist in the terrestrial environment and degrades rapidly to products that exhibit low toxicity to non-target organisms. Consequently, when Isoclast is used according to label directions, exposure of non-target organisms to Isoclast is expected to be minimal. Based on available data, use of Isoclast in the manner consistent with label directions will not cause any unreasonable adverse effects in the environment.

#### Insects Controlled Includes;

Aphids, Whiteflies, Mealybugs and Scales, Leafhoppers, Jassids and planthoppers, Lygus bugs, psyllids and some Thrips.

### Key Attributes of Isoclast<sup>™</sup>

- Effective at low use rates
- Fast acting with excellent knockdown and residual control
- Excellent translaminar and systemic activity
- Effective against insect pest populations resistant to other insecticides
- · Valuable rotation partner with other chemistries
- Excellent fit in IMP programs because it has minimal impact on beneficial insects, including bees and natural enemies, when applicators follow label directions for use.
- Degrades rapidly in the soil and air.





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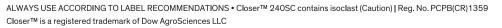
Closer<sup>™</sup> 240SC INSECTICIDE ISOCLAST<sup>™</sup> ACTIVE

## Effective residual control on aphids, mealy bugs and whiteflies

- Effective at low use rates
- Fast acting with excellent knockdown and residual control
- Excellent systemic and translaminar activity
- Effective against insect pest populations resistant to other insecticides due to its unique mode of action and its differential metabolism
- Valuable rotation partner with other insecticide chemistries
- Excellent fit in IPM programs because it has minimal impact on natural enemies of insect pests and on bees when applied according to label directions
- Degrades rapidly in the soil and air

For more information please contact the registration holder: Dow Chemical East Africa Ltd. • 14 Riverside, Off Riverside Drive, Cavendish Block, Suite 1B • P.O. Box 2170-00606, Nairobi, Kenya • Tel +254 20 421 3000 • Fax +254 20 421 3030 • www.dowagro.com Lachlan Kenya Ltd: Tel + 254 202 073 912 • Fax + 254 20 2060260 • Mobile + 254 722 522749 • P.O. Box 49470, Nairobi, 00100, Kenya Amiran Kenya Ltd: Tel +254 719 095 000 • Fax +254 20 824 856-7/837 • Old Airport North Road-Embakasi, P.O. Box 30327-00100, Nairobi, Kenya

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### Biotechnology

"In expanding global production areas like Kenya we have to work together as a biocontrol industry and promote our exciting technologies. We all have to make our technologies available and understood by all the agricultural stakeholders. This can be only achieved by working together and maximise the impact for both small and large scale growers."



## **IBMA Kenya** Receives Innovation Award

n the last 10 years biocontrol in Kenya has grown from a concept and wish, to a major crop protection strategy in reality. This transition has occurred as a result of various driving forces including consumer demand, overcoming pesticide resistance and environmental concern. However, the wide spread adoption by Kenyan growers has only been achieved through locally available

biological control agents and service providers that provide affordable biological solutions. The biological industry has recognised that for the technology to be effectively adopted it has to be affordable and effective which often means local in-country production.

As local companies have become established that both produce and service customers' needs through

> technical advice, training and products, there has been a need to have an organisation that represents the biocontrol industry in Kenya. The objectives of this body are to promote the technology, raise stakeholder awareness and lobby regulators and government to appreciate the merits of this technology.

The four founding members, Dudutech, Kenya Biologics, Koppert Kenya and Real IPM established IBMA Kenya (International Biocontrol Manufacturers Association of Kenya) in 2017. IBMA is a global organisation, and IBMA Kenya represents the ideals at the local level. The association was launched at the Naivasha Horticulture Fair and was awarded the show's best innovation.

Dr Wainwright, General Manager of Real IPM said "In expanding global production areas like Kenya we have to work together as a biocontrol industry and promote our exciting technologies. We all have to make our technologies available and understood by all the agricultural stakeholders. This can be only achieved by working together and maximise the impact for both small and large scale growers." The association welcomes new members and should contact info@ibmakenya.org. IBMA Kenya gratefully acknowledges the support the SNV through the Hortilmpact programme.



## Naivasha Horticultural Fair







fter the fairground was blessed by some 40 mm of rain on the setup day, the Naivasha Horticultural Fair took off on Friday September 15th and finished on Saturday 16th Sept. Fortunately, it all stayed dry during the days of this outdoor event, where stakeholders from the flower industry sector displayed their products.

The Fair, which is considered to be one of the largest horticultural fairs in Africa, is in its 15th year and the organization was again pleased with this year's edition.

"Considering the slow state of the Kenyan Economy, we were very pleased with having about the same number of exhibitors (200)", says Naivasha Horticultural Fair Chairman Richard McGonnel. Besides that, visiting numbers were slightly up (over 3,500 visitors) and they have also seen a small increase in the small scale farm visitors. "This looks very promising", he says. "All in all, the show went very well and good business was done."

The exhibitors were also pleased with the number and quality of visitors. "Despite the weather (lot of rain just before the show) it was again great success and we look forward to the next edition", says Jelle Posthumus of rose breeding company United Selections. According to him, the fair was visited by a lot of people and particularly on the second day of the show, Saturday September 16.

### Awards

During the fair, also awards were handed out. The award for Best Stand was won by WAC b.v. for their innovative display of Golden Bird and Love Bird. The award for Best Commercial stand was won by NHFair newcomers Magrrow showing their new and very innovative spray equipment. IBMA won the innovation award for their efforts for their crop protection strategy, and "all seemed to celebrate accordingly on that group of stands".

## Water alkalinity versus pH

The pH of the water does not dictate the pH of the growing medium; it is that alkalinity that influences the pH of the growing medium.

### **Understanding the difference**

Water alkalinity and pH are not the same. Water alkalinity is a measure of the carbonate and bicarbonate levels in water, whereas pH measures the amount of hydrogen (acid ions) in the water. Think of carbonates and bicarbonates as dissolved limestone. The higher the alkalinity of the water, the more dissolved lime it contains, therefore, the more rapidly the water can cause the pH of the growing medium to rise. The pH of the water does not have any influence on the pH of the growing medium; however, alkalinity does.

Here's a great example: The chart below shows the starting pH of two water sources and the amount of acid required for each to reach a pH of 5.0. As indicated, the water with the higher pH did not require as much as acid as the one with the lower starting pH. At first look, this may not make sense.

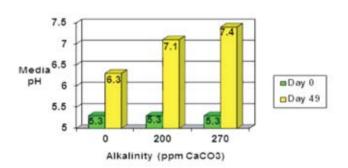
Starting Water pH	ml Sulfuric Acid Required to Reduce Water pH to 5.0
9.3	1.2
8.3	6.0

Now take the same water sources above and include the alkalinity (see table below). The water with the lower alkalinity did not require as much acid to reach a pH of 5.0. The alkalinity actually determines how much acid to use, not the pH of the water.

Starting water pH	Water Alkalinity (ppm CaCo3)	ml Sulfuric Required to Reduce Water Ph to 5.0
9.3	71	1.2
8.3	310	6.0

How does water alkalinity influence the pH of the growing medium? In Figure 1 below, plants were grown for 49 days and constant fed at 125 ppm with 13-2-13 (a potentially basic, plug fertilizer). The plants were irrigated with one of three water sources with varying alkalinities. The pH rose in all three media samples, not only due to the 13-2-13 and limestone in the growing medium, but also from the alkalinity of the water source. In this example, the higher the alkalinity, the higher the pH of the growing medium rose.

Figure 1:



This graph shows the influence of water alkalinity on the pH after 49 days. Notice the higher the water alkalinity, the higher the pH of the growing medium rose after 49 days.

It is clear that the pH of the water and the alkalinity of the water are not the same. In fact, the pH of the water does not dictate the pH of the growing medium; it is that alkalinity that influences the pH of the growing medium. This is important to remember and monitor, since alkalinity has an impact of what type(s) of fertilizer should be used or if acid injection is required.



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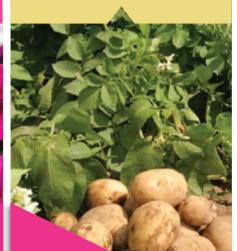
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• An excellent IPM program compliance product • KOBE 1.2 SL is

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## Panalpina completes acquisition of Air Connection

International freight forwarding and logistics company Panalpina announced the completion of the acquisition of Air Connection, a specialized forwarder of flowers and vegetables following the approval by the Competition Authority of Kenya. The move follows Panalpina's acquisition of Airflo in 2016 and positions the company as a clear market leader in perishables in Kenya.

he acquisition of Air Connection is another important step in building our Perishables Network. It further strengthens our existing global footprint and positions us as a clear market leader in perishables in Kenya," says Stefan Karlen, CEO of Panalpina. "It will also allow us to develop our perishables presence in the neighboring countries of Tanzania and Uganda, where we see a lot of potential."

The Panalpina Perishables Network offers customers in both origin and destination countries complete end-to-end solutions on a global scale. Using the company's global coverage, dedicated perishables experts in key markets, and the unique Panalpina Charter Network, Panalpina is one of the few freight forwarders worldwide that can combine global coverage with experts dedicated to the perishables business. "Being part of a major logistics company which is focused on becoming the preferred global supplier of perishables logistics means we can now offer our customers end-to-end solutions and grow the perishables business out of Kenya," added Manjit Brar, owner and managing director of Air Connection.

"By combining Panalpina's global network with

Air Connection's expertise in direct shipments, we can now offer our customers an unequalled service including direct shipments to over 150 destinations worldwide," explains Conrad Archer, managing director of Panalpina Airflo and Panalpina Kenya.

The combined business boosts Panalpina Airflo's existing cold storage capabilities to a total of 4,200 m2 dedicated to perishables and will handle around 70,000 tons of perishables air freight per year. Construction has already begun to significantly increase the cold storage for perishables, which will be completed next year.

## Kuehne + Nagel expands its leading position in Perishables Logistics

ith the acquisition of CFI, Commodity Forwarders Inc., the leading airfreight forwarder of perishables products in the USA, and Trillvane Ltd, one of the largest perishables specialists in Kenya, Kuehne + Nagel expands its global perishables network by adding more than 150,000 tons of perishables and further strengthens its position in providingendto-end international and domestic fresh chain solutions. customers will benefit."

The acquisition of Trillvane Ltd, Kenya, will enable Kuehne + Nagel to strengthen its position in perishables operations between Kenya and Europe, in particular to the UK. With its 130 employees Trillvane is specialised in the export of flowers and vegetables. Its location at the Jomo Kenyatta International Airport in Nairobi provides easy and quick access to all major airlines allowing for later cut-offs and shorter transit times leading to both cost savings and optimal handling of

"It provides easy and quick access to all major airlines allowing for later cut-offs and shorter transit times leading to both cost savings and optimal handling of temperature sensitive goods."

Alfred Kuehlewind, Founder and CEO of CFI: "We are looking forward to become part of the Kuehne + Nagel Group. The transaction will offer us new growth perspectives and access to a global logistics network. Both companies' temperature sensitive goods.

Yngve Ruud, member of the Management Board of Kuehne + Nagel International AG, responsible for Airfreight Logistics: "The two acquisitions mark another important step in our global perishable logistics strategy. These two transactions further strengthen and expand our fresh chain network connecting key production countries to major consumer markets. The business potential in the steadily growing global perishable sector is huge.

Based on our dedicated network – by now the largest in the logistics industry for perishables – and globally integrated IT systems we can scale business opportunities and accelerate our growth in this sector with end-to-end transparency. At the same time, we improve our global and national positioning in airfreight. Together with CFI Kuehne + Nagel becomes the number 2 airfreight forwarder in the United States and the acquisition of Trillvane confirms our leading position in Kenya."

All parties agreed not to disclose the purchase price. Both transactions are subject to customary closing conditions and to clearance by the competent merger control authorities.

## **Downy Mildew Management in Roses**

### Description

Downy mildew is a fungal disease that causes destruction of leaves, stems, and flowers of the infected plant. Downy mildew causal organism is called Peronosporasparsa and as the scientific name indicates, the production of spores is sparse and therefore this disease is difficult to diagnose and control.

Downy mildew (Oomycete fungi) are referred to as a high risk pathogens because of the following factors;

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

### **Conditions for infection**

The optimal conditions for the appearance of Downy Mildew are constant high humidity (RH 85-100%) low night temperatures and moisture on the leaves. The optimal temperatures for spore germination is between 10°C and 18°C no germination take place at temperatures below 5°C and the spores are killed at temperatures above 27°C.

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

### What factors favour these conditions?

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

### Downy Mildew symptoms.

 Leaves have reddish-black spots that are angular, tan spots with a very small amount of white crystalline sporulation on leaf undersides

• The leaves develop purplish red to dark brown irregular spots or blotches which might be mistaken for spray burns or possibly black spot.

• Advanced infections will have yellowing of leaves with brown necrotic areas and noticeable leaf abscission.

### Disease Management Cultural Control

 Destroy rose debris from previous crops

 spores can overwinter in leaves and canes, then the downy mildew can attack new plants.

• Try to water early in the day or whenever leaves will dry quickly, to ensure dry foliage at night

• Even though fans might move spores, you should use them along with venting to reduce humidity and leaf wetness

• Hungry plants are more susceptible to downy mildew. Maintain a balanced fertility program to protect your crops

• Space plants to allow rapid drying of leaves. If the leaves are very touching, the canopy closes in and the humidity increases.

• Use resistant varieties for low

### By Maurice Koome



maintenance plantings.

### **Chemical Control**

Choosing the most effective fungicides to prevent or eradicate rose downy mildew can be tough. Downy mildew requires a well-managed chemical spray program starting early with a rotation of chemicals for prevention.

Fungicides for use against downy mildew can be categorized as preventive, early or late curative products.

The disease also overwinters in the crop that was infected in the previous season. The fungus may overwinter in stems as dormant mycelia without oospores as shown alongside. This is the primary inoculum of the disease and upon reaching the favorable conditions, the disease infects new stems. This can be controlled through early drenching of a preventive fungicide.

The preventive fungicides must be applied before an infection period begins. New growth following application will not be protected.

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

"Late curative products" deal with intra- cellular infection level (by this time symptoms are visible to the eye)

• Early curative products work against spore germination, sporangia elongation and penetration.

• Late curative products" deal with intra- cellular infection level (by this time symptoms are visible to the eye) these late curative products deal with stages like Cyst germination and mycelium growth.



The Muse of beauty Confidence and convenience FOR THE GROWER in the control of Downy Mildew.

- 9 11 6.0

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



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A creative mode of action with cutting edge technology for the control of powdery mildew.

### Experience new benefits with Vivando®:

- Creative mode of action: Multi-Level-Activity.
- Excellent preventative control of powdery mildew.
- Soft treatment for your roses: no phytotoxicity, no visible residues.
- Perfect fit for spray rotations and resistance management, no cross resistance with other powdery mildew fungicides.
- WHO classification (Green), safe to the user.
- Safe for predatory mites and other beneficial organisms, IPM compatible.

\*Please refer to the label before applying the product.



Joseph Muita, Ornamentals Manager-Kenya | E-Mail: joseph.muita@basf.com | Mobile: +254 721 295 259 WWW.agriculture.basf.com/ke/en.html | <sup>®</sup> = Registered trademark of BASF

## Why I Choose Orvego<sup>®</sup>

### **By Joseph Muita**

ou're not the only one who loves roses. We have insect pests and diseases adoring them as well. Below is one of the common rose problem.

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

Orvego<sup>®</sup> 525SCis the innovative fungicide from BASF that combines the well-known active ingredient Dimethomorph with Initium<sup>™</sup> (Ametoctradin) to form a premium preventive shield against downy mildew.

Downy mildew, Peronosporasparsa, is extremely infectious and will spread throughout your roses quickly if left untreated. It defoliates a plant so rapidly, within a day or two and the plant losses it's photosynthesizing ability and weakens the plant to a degree that it becomes totally unproductive.

### How do you control downy mildew?

That's the question in some if not all grower's mind and the many who are able to control it are able to; identify the disease and it's stages, looking for symptoms of early infection on older leaf tissue before chlorosis develops and identifying the symptoms before the disease reaches flowers, understanding the biology, the predisposing factors, monitoring the disease's progress which helps in predetermining the disease onset and coming up with an appropriate chemical intervention.

### How doesOrvego® work?

Orvego® fungicide meets the needs of professional growers who want fast knockdown to stop the spread of all major Phytophthora species and downy mildews in their greenhouse and nursery crops. Ametoctradin controls downy mildew by disrupting energy production inside the fungal cells. Interestingly, although Ametoctradin is very rapidly rainfast, it can redistribute on the plant surface when exposed to rainfall, irrigation or dew, effectively reprotecting the plant.

Dimethomorph, a Group 40 fungicide, adds systemic and translaminar control in the crop. It controls infection by preventing the disease from penetrating plant cells. The dimethomorph component of Orvego<sup>®</sup> is also an anti-sporulant, allowing Orvego to

stop the spread of disease from hot spots that may develop in the green house.

If you expect more from a new fungicide, Orvego<sup>®</sup> is a thenew opportunity, Orvego<sup>®</sup> has an excellent regulatory profile, meeting not only your needs but also those of consumers and the environment.

Overall, this ensures high yields and reliable crop quality, adding to your confidence and convenience.

## Orvego® is characterized by six benefits to the farmers:

1) Excellent and highly active control of Oomycete (also called Peronosporomycete) diseases in many crops with excellent selectivity due to its dual mode of action

2) Resistance management.

**3)** Overall excellent regulatory profile with very favorable toxicological and ecotoxicological as well as environmental fate properties, resulting in excellent consumer and operator safety assessments.

4) Orvego<sup>®</sup> provides premium preventive action hence excellent disease control even when applied shortly before it rains.

5) IPM compatible

6) Has excellent compatibility with tank mixes

### Key Benefits of Orvego® for You:

• Orvego® protects your crop effectively and keep them healthy longer to develop their full potential

· Aids in yielding of high quality and residue free flowers

Every flower stem counts hence successful farmers who takes customer satisfaction a notch higher are smart to maximize yields through crop protection from the use of Orvego<sup>®</sup> 525SCto evict Downy Mildew

### Joseph Muita is the Technical Sales Representative -Flowers BASF



On Wednesday 7 November 2017 Royal FloraHolland and FloraXchange presented the first version of Floriday at the Royal FloraHolland Trade Fair. A group of pot plant growers became the first user of Floriday.

For the horticultural sector. The platform enables growers to be active in several trade channels and markets at the same time. Other growers will be given access in phases before the end of the year.

#### Floriday for growers

With the first version of Floriday, growers only have to log in once to put products on

**First growers on Floriday** 

offer in several marketing channels such as FloraXchange and FloraMondo. This makes life easier for growers, saves time and is more effective.

#### Floriday for buyers

Although Floriday focuses on growers, the platform also has indirect benefits for buyers. Through FloraMondo and FloraXchange, they gain access to a larger supply. In addition, Floriday ties in better with the grower's processes, so buyers quickly receive information about, for

## **Record Number of Visitors First Day Trade Fair 2017**



The first day of the three-day Trade Fair in Aalsmeer welcomed a record number of 6000 visitors. Its focus is sustainability, with the theme 'Welcome to the Green Age!'. More than 200 of the 700 exhibitors have MPS-GAP certification. Grouped together, they form the Green Walk.

Royal FloraHolland stimulates sustainability in the chain, and as one element of this strategy, it is presenting the 'Greenovation Award' at the Trade Fair. Exhibitors were invited to submit their product or concept for consideration. An expert jury evaluated and nominated the submissions, while a consumer jury determined the ranking. On Thursday, the Greenovation Award was presented at the Trade Fair in the categories Best Concept and Best Article.

example, the progress with their order or order handling. Another benefit is that ultimately, the buyers' conditions and wishes can be better accommodated by growers during the purchasing process in Floriday.

#### Linking to Floriday

With Floriday both companies are working on fulfilling their ambition to strengthen the global trade in horticultural products together with growers, buyers and other players in the sector. "The current version of Floridav is basic and does not vet have all its functionalities. It is a system that we can expand easily. The technology of the platform is geared to this," explained Merel Prins, project coordinator at FloraXchange. "For example, by linking up systems that growers are already using in their farmers. This brings the benefit of not having to enter the same information twice." But those are not the only possibilities. Gerhard van der Bijl, CDO of Royal FloraHolland, added, "We can also link new or existing trade channels of buyers to Floriday, which growers can then start using immediately." Floriday also enables access to international markets and thus ensures an increase in trade with different players.

#### Continuing to develop together

Gerhard said, "Naturally, we shall continue to develop Floriday to make the work of growers easier. For example, expanding the stock and sales data, adding improved tools for making product images and labelling in the nursery." He is very interested in hearing the responses of growers, exporters and software suppliers during the Trade Fair. "I would like to learn about their wishes and ideas for collaboration. Their input will enable us to make the work in the nursery and throughout the horticultural sector even easier."



## Total chain concept

All Chrysal products have been especially developed to meet the specific needs of cut flowers and plants at every stage of the chain.

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

### Grower

Products: Chrysal post-harvest treatments, CVBN, SVB, Inicial, AVB, AVB Booster, BVB, LeafShine & Seal, Dip & Wash. Effects: Protects flowers against physiological disorders and simulates water uptake.

Services: Audits, 'Chrysal Code of Practice', PHT Training and technical consulting.



### Wholesaler / Bouquet maker

Products: Chrysal Professional line, RVB Clear, Arrive Alive,



### Consumer

Products: Chrysal cut flower food, in powder and liquid formulations.

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

Services: Private label flower food. FAQ and care information.





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## **Technology Trends - Where are we headed?**

#### By John W. Bartok Jr.

he trend toward natural ventilation can eliminate the need for fans. If you have attended any of the industry product shows recently, you have seen new technology that will be part of your operation soon. There are many exciting developments that will make your job easier, reduce labor input and produce better plants.

### Here are a few trends that I think will have an impact on your operations:

Internet information – The use of the internet is increasing rapidly. Information on what products are available, how to select the right one and how to install and maintain them is becoming readily available on the web. Purchasing through the internet will continue to increase. Monitoring and controlling the greenhouse environment with internetcontrolled electronic devices is becoming standard practice.

Greenhouse design – To reduce electricity costs, more greenhouses are being built or retrofitted with natural ventilation. To increase the effectiveness of natural ventilation, greenhouses are getting taller. This also allows room for multiple energy/shade screens and more space for hanging basket production.

Natural gas and high-efficiency heaters reduce heating cost.

With improvements and lower prices for photovoltaic systems, growers are installing systems to offset the increasing cost of electricity. Several research projects are currently investigating the incorporation of solar collectors into the glazing on the greenhouse.

Supplemental lighting – There is a strong trend to install more efficient LED and HID lighting. Several research projects are looking at the benefits and economics of better plant growth control and greater utilization of greenhouses during the winter. *Irrigation* – Water is become a regulated resource in many areas. There have been many innovations and improvements in the way water is applied to grow plants. Recycling, improved application methods, new sensors and controllers are available. These need to be put into use by growers, both large and small.

*Environment controls* – Great strides have been made over the past few years in integrating the equipment that controls the greenhouse environment. Both controllers and computers are readily available today. A trend toward using electronic controls by the smaller grower is developing. Besides saving energy, better plant quality and a shorter growing season can result. mechanization.

Management – With the increase in mechanization and controls, there will be a greater need for people trained to select and maintain this technology. Engineers and technical service personnel will become part of many larger operations. Consultants are now available from suppliers to help growers.

There are still many challenges and opportunities in the greenhouse industry. Based on technology changes that have taken place in the last 50 years, it may be difficult to recognize the way greenhouse operations will look in the next 50 years. If a business is to succeed, it will have to select and install the



Mechanization – Labor input for many crops is being reduced with new equipment. A trend toward once-through production is starting to develop. Equipment for spacing plants and plug sticking are the latest equipment developments. With labor being the greatest cost in the production of most plants and availability limited in many sections of the country, greenhouse operations will be designed to be more labor-efficient, utilizing technology that best fits these trends.

John is an agricultural engineer, an emeritus extension professor at the University of Connecticut and a regular contributor to Greenhouse Management. He is an author, consultant and certified technical service provider doing greenhouse energy audits for USDA grant programs in New England. jbartok@rcn.com

## "Appreciation for Dutch knowledge in Kenya and Tanzania"

Ingrid Korving started at the embassy in Nairobi in the summer of 2017. Before her departure to Africa, Korving worked at the ministry of Economics for years. In her last function in The Hague she already had a lot of contact with agricultural councils as Regional Coordinator for Africa.

### Refly discuss your meeting with CS Agriculture

It was an open and informative talk. The minister has a lot of respect for the activities that Dutch companies have undertaken in Kenya in recent years, for instance in ornamental plant cultivation. There is a lot of contact between the Netherlands and Kenya and this relationship is also appreciated by the Kenyan government. I believe, for this reason among others, that there are a lot of opportunities for Dutch companies in East Africa."

### Your first impression: is agriculture an important economic sector in Kenya and Tanzania?

"Absolutely, agriculture is a very important sector, if not the most important. There are a lot of mouths to feed. The population is growing quickly and purchasing power is increasing, especially in the up and coming middle class. Agriculture offers a lot of people work and an income. This is a boundary condition for the stability in Kenya and Tanzania. The governments are working hard to further stimulate the agrarian sector and are looking to Holland with interest. Our country is crucial for export. The Netherlands is the main export country for Kenya after Uganda. It mainly concerns products from the ornamental and vegetable cultivations."

### Are there big differences between Kenya and Tanzania?

"There certainly are. Kenya is very export orientated, especially in intensive cultivations such as roses. Nairobi Airport is the largest cargo hub in Africa and that is largely to do with the export of the roses. In general you could say that the East Africa region is opening up due to the many developments in the infrastructure. That offers opportunities for Dutch companies.

Kenya is focused on export, whilst Tanzania focuses more on domestic sales and those to neighbouring countries. But the agricultural developments are also moving quickly in Tanzania. The cultivation of seeds and other planting materials is growing, especially in the area around Arusha, an area in the north with an excellent agricultural climate."

### What are important successes for the Netherlands?

"During the construction of the entire decorative plant cultivation in Kenya, the Netherlands has played an important role over the last fifteen years. The large companies such as Flora Holland and Dutch Flower Group all have their own office here. You see the same happening now in the planting material section. A few years ago Kenya's border opened to Dutch planting materials. Since then developments have moved quickly. There are now 34 Dutch varieties on the Kenyan variety list. Agrico is increasing their materials here.

The experiences in Kenya are now thankfully used in Tanzania. Agreement have been made there too on public and private collaboration with the Netherlands. This collaboration is focused on carrying over agricultural knowledge, measures to reduce losses in the chain and for instance the support of TOSCI, the Kenyan NVWA, in the development of adequate phytosanitary regulations and controls. Twelve Dutch companies from the potato chain are involved in this collaboration."

### What will you be focusing on over the coming period?

"In the switch from one agricultural council to the other there can be no gaps left, the running



files must be completed. One of those is the certification of the Dutch port to export to Kenya."

Climate is high on my agenda over the coming years. Climate change is heavily affecting East Africa. Dutch companies can offer support in the areas of efficient water usage and for instance supplying drought resistant varieties. In practice Dutch techniques don't always connect to the demand, for instance because they are too expensive. I see it as my task to inform companies of the local needs here in Kenya and Tanzania.

As a third priority I would like to mention fighting wildlife crime, for instance by offering support to the authorities in Kenya and Tanzania in flattening the export of ivory. That is a basic condition in preserving the lives of the elephants and rhinos in this region."

### What is your main advice to Dutch companies?

"It really goes for all countries in Africa, companies that want to gain a foothold here quickly have to have stamina. This isn't the place for quick wins. Even more important: work together, form a cluster of companies from the same chain and make contact with parties in this country, both public and private. The chains from Dutch seeding material and decorative plant cultivation use this strategy. It has revealed itself to be successful."

## AMINO GOLD<sup>®</sup> SPREADER AND WETTER ADJUVANT FOR ENHANCING PERFORMANCE AGAINST RED SPIDERMITES

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

AMINO GOLD® is a Non-ionic Wetter and Spreader that improves spray coverage, adhesion and canopy penetration.

AMINO GOLD® reduces surface tension of spray solutions, thereby promoting a high level of spreading on difficult to wet plant foliage.

AMINO GOLD® alters solubility relationships to greatly increase and accelerate foliar absorption of pesticide through the plant cuticle.

AMINO GOLD® enhances rain fastness thus decreasing the rain-free period required after spray application.

### DIRECTIONS FOR USE

 Target Crop
 Roses

 Target Pests
 Red Spidermites

Application Rates 0.75ml of AMINO GOLD® with 0.5ml per Liter of KNOCKBECTIN 40EC® in 1,000Litres of water

### Re-Entry Interval 6Hours



### Application of Amino Gold on Roses at Valentine Growers Limited Kiambu

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For more information please visit our offices or contact our sales team at **AGRICHEM AFRICA LIMITED®** WINSFORD PARK off BABA DOGO ROAD RUARAKA **P O BOX** 27151 G P O 00100 NAIROBI KENYA **PILOT LINES** +254 733 806 200 +254 727 531 010 +254 720 325 144 **E-MAIL** marketing@agrichemafrica.com • **WEBSITE** www.agrichemafrica.com









When it comes to branding and your exhibition stand, you only get one chance to impress. This is not because once the exhibition stand is on the trade show floor it cannot be modified, but also because often exhibition visitors will pass by the exhibition stand once.



What's the difference between an exhibitor who sizzles and one that fizzles? Sometimes it's hard to find something truly unique on the trade show floor, but the exhibit from Agrichem Africa Ltd had a few exceptional elements that made it noteworthy. First, positioning, on the first lane of the ground almost opposite the gate space allowed it to stand out and appear even larger than the space itself and almost the first booth flower growers saw. Second, using the tall, dark green, red, black and white walls as projection surfaces was a brilliant way to keep the booth minimalistic while still communicating important key messages in a visually impactful manner that made visitors to stop and take note. Third, the laser-tight focus on the company's product was a welcome contrast to its graphics-heavy and display-cluttered neighbours.

The booth attracted throngs of onlookers equally arresting, attracting droves of attendees like mosquitoes to a beautiful, glowing bug zapper, the interactive elements were inviting, prompting passersby to snap a picture of the amethyst environ and teasing attendees into entering and exploring. The booth was a hit, greeting visitors with an attention-grabbing focal point comprising a dramatically lit ceiling structure and a bold brand signage. And best of all, the spaces were staffed with brand reps at the ready to help attendees make sense of the special effects.

Speaking during the exhibition, Mr. Shiraz Karmali the Managing Director said, "Good branding doesn't happen overnight and it doesn't happen by accident. In fact, it takes planning, creativity and consistency - executed over time - again and again. This started with the company logo, corporate identity package and brand guidelines. We expanded our brand from element to element without overlooking even the smallest detail."



In sponsoring the event, Agrichem Africa Ltd understood that, branding is based on emotion. Though the task of swaying emotions in people is enormous, it's not enough to let it lie and become its own .To appeal to emotions, good positioning of their booth was key and the best position could only be achieved through being sponsors. "Branding is a process, a business system that fuels and sustains all customer/company relationships! Total consistency, congruity, clarity and focus in every aspect of the exhibition, before, during and after the show" reiterated Mr. Shirish Ingale, the Sales Director.

"Branding is a basic marketing concept that is designed to set your products/services ahead of the competition by creating a unique identity. NH Fair was our time to refine and define our corporate culture, identity and express our brand meaning to customers", said Mr. Ingale. Adding, "The Agrichem Africa Ltd brand is an emotional link between us and our customers. It is what people buy when they buy our products. The most important part of our brand's identity is the promise it makes to customers. This is what we are exhibiting today".

## Agrichem Africa Ltd Unique Style Connects with Growers

Product branding and Consistency:

"Agrichem Africa stand is designed well and everything is labelled and placed appropriately, visualized for audience and generation of credible messages about the products .This creates a unique sequence in its construction. All the banners, artworks, product labelling and the display racks are affixed on the more viewable places. What potential and existing customers see is arguably appropriate level of professionalism, said James Gacheru, Technical Manager Flower City Thika. when interviewed by The *Floriculture Magazine Team.* 

**Bigger exhibition Booth:** "There's a reason everyone wants to see the Grand Canyon: it's really big! Similarly, one of the key factors in which exhibition attendees remember most is booth size" said James Gacheru, Technical Manager Flower City Thika. Agrichem Africa Ltd had bigger booth space; attractively designed, calling for attention and action from customers.

Great graphic impact: Attendees could not ignore the booth due to its bright, bold colours, big images such as banners and posters with messages which were easy to relate with. The designs created more impact and visitors approached from far away, down the aisle, and in the booth.

Brand ambassadors: "The Company brought to the show employees who best exemplified their brand. When potential customers visited the stand, they got specific answers to very specific questions because the stand had carefully selected competent individuals who worked effectively as a team. The staff consisted of both technical, sales experience and knowledge. There uniform easily distinguished them from other similarly-attired personnel from other companies. They easily interacted with stand visitors, greeting them in a friendly manner, and offering help and advice where needed said," Peterson Thuita farm manager Kariki Ltd. Nanvuki..

Prior promotions: To attract more people, the company had pre-show and at-show promotions. They had sponsored the event, ran adverts in the show book and other industry magazines, and send direct emails to their customers to visit their stand. They also offered giveaways which attracted more people to their booth, which could easily remind attendees about their brand after the show is over and reinforce the brand image.

Everything the company stands for, no matter how large or small, was being exhibited.



## Union Fleurs 2017 General Assembly in Poland:

### Blooming opportunities & a stimulating outlook for the future

The General Assemblyof Union Fleurs, the International Flower Trade Association, was organised this year in partnership with Flower Expo Poland in Warsaw, Poland.

Member stravelled from 11 countries as far as Turkey and Kenya to share perspectives and insights on the current developments in the floriculture value-chain. Overall, participants were impressed with the blooming business opportunities offered by the Polish market and the positive energy displayed at every corner of the joint fairgrounds of Flower Expo Poland and Green is Life.

During the Union Fleurs General Assembly meeting on 2<sup>nd</sup> September, members were joined by three knowledgeablestakeholders active in the Polish flower& plant sector: Mr Martijn Homan, Agricultural Counsellor at the Embassy of the Netherlands in Poland, Mr. Kees van Rijn, CEO of Polish-based Dutch wholesale company Bart Kwiaty and Ms. Anna Małcużyńska, director of PR agency Sigma International Poland, presented a very positive outlook on the future of the Polish marketwith solid growth perspectives in the coming years. They exchanged views with the participants onthe Polish market's specificities, focusing on consumption & distribution patterns.

The meeting also offered stimulating views and perspectiveson the global challenges and market changes currently faced by the flowers& plants value-chain, particularly traders and wholesalers. The membership agreed that those pre-competitive challenges, including the Brexit process, market access issues and phytosanitary risks, require strategic and coordinated efforts through reinforced lobbying activities by Union Fleurs in Brussels and



at international level, for the ultimate benefit of the global flower industry. Additionally, members supported ongoing initiatives to strengthen Union Fleurs activities in the pot plant segment and took on board the need to cooperate more actively among member countries to sustain and encourage global consumption of flowers & plants via generic promotion campaigns, in particular towards the younger generations.

In line with the Union Fleurs strategic review, devised in the last 3 years and formally approved in 2016, members widely supported there newed objective of further engaging directly with key private players of the floriculture value-chain, in addition to the traditional core membership of national wholesale & import/export trade associations. By directly connecting with Union Fleurs' international network and supporting the Association's missions and activities, those players will contribute to optimising the global enabling & policy environment of common relevance to all operators across the floriculture supplychain. This is more than ever one of the core missions and strategic objectives of Union Fleurs in order to deliver maximum value to its members as the international association of the flower trade.

A busy and stimulating agenda therefore lies ahead of Union Fleurs and its members in the coming months.

Union Fleurs would express its warmest thanks to the organisers of Flower Expo Poland & Green is Life and to the Embassy of the Netherlands in Poland, who had been of invaluable support to organise the General Assembly this year.

For further information, please contact: Sylvie Mamias Union Fleurs Secretary General Tel.: +32 2 736 79 97 Email: secgen@unionfleurs.org

# **Selecta One, Wagagai Flower Farm** Initiate New Role Model of Trading Fair Poinsettias

ince 2016, Selecta one supplies Fairtrade certified young plants to their poinsettia growers besides conventional ones. All poinsettias are sourced from Wagagai Ltd. in Uganda. Besides improving health and safety measures, enabling freedom of association and collective bargaining the employees benefit from a Fairtrade Premium, which can be used for social projects. Already in 2016, Selecta generated through their poinsettia sourcing at Wagagai a return of 8,000 Euro to local workers as a premium. Independently from this Selecta and Wagagai are fulfilling all environmental and social standards set by Fairtrade to meet the certification requirements.

In Uganda as well as in other developing countries, basic wages in agriculture are well below what would be considered a living wage. Pay is insufficient to allow workers and their families meet their essential needs and afford them a decent standard of living. The absence of a minimum wage in Uganda compounds the problem. Besides that, wages cannot keep up with the rate of price increase. As a consequence people loose purchasing power. In addition many public services like schools are charged in developing countries. Often people do not have enough cash to send their children to secondary school.

So called "Living Wages" are therefore extremely important to sustain the livelihoods of the lowest income earners in labour organizations, mainly workers.

On the occasion of the "Fairtrade Fortnight", September 15 – 29, Selecta one and its cutting farm Wagagai Ltd. launched a project with Fairtrade to improve the wages of the employees: both partners will in the future refrain from placing certification costs and marketing costs of the poinsettias on the selling price. By adding just a few cents to the price of the fairly traded cuttings a significant bonus can be generated on the back of the volume of Fairtrade sales. The bonus flows directly into Fairtrade bonus fund for the workers. This is true not only for 2017, but for every poinsettia season. Quite aptly, this collaboration between Fairtrade, Wagagai and Selecta One is called the Wagagai Cents project.

Per Klemm, CEO, co-shareholder of Selecta one: , "With this decision we are able to transfer already in 2017 about 45,000 Euro in addition to the Fairtrade premium to our cutting farm in Uganda. This sum will be solely used for the benefit of Wagagais staff. We are happy to have taken that decision within the context of the Fairtrade Fortnight in order to further contribute to alleviate poverty in this part of our world."





#### **Olav Boenders**

And Olav Boenders, Director, shareholder of Wagagai Farm adds: "Following the standards of Fairtrade the agreed premium will be submitted to the Fairtrade committee fund, who will decide democratically for which social project it will be used for. With almost additional 45.000 Euro we are happy to pay out a full monthly salary extra to each worker as an extra Fairtrade bonus. From this about 1000 workers and their families will benefit".

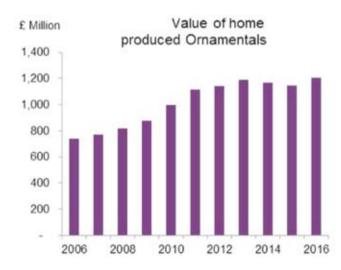
"The Fairtrade premium is an important tool for implementing projects that benefit the community. Low wages remain a challenge to the individual development of workers and their families. That is why we applaud this innovative project of Selecta one and Wagagai to take a further step toward a living wage for these workers and inspire others in the industry to join in," completes Darío Soto Abril, CEO of Fairtrade International.

Fairtrade International is committed to assist implementing, "Living Wages" also on other farms in Africa, Latin America and Asia. The essential driver to succeed remains the demand though. As more consumers buy Fairtrade plants in our part of the world, people in Africa and elsewhere are able to decide on the own future.

# REGIONALBRIEFS

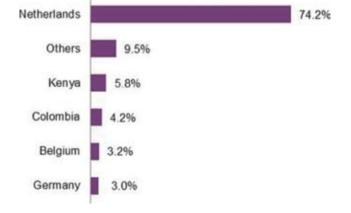
# UK ornamentals market up 4.7%

UK ornamentals were worth £1.2 billion in 2016, an increase of 4.7% compared to 2015, according to the latest horticulture statistics from the Department for Environment Food & Rural Affairs.



The value of ornamental imports was just below £1.2 billion an 11% rise on 2015. The Netherlands accounted for 74% of imports, mainly indoor plants, chrysanthemums and roses. Kenya accounted for 5.8% of imports, mainly cut roses and carnations.

Imports of cut flowers showed a 13% increase and bulbs a 6.4% increase.



% of UK imports by value



# **Tanzania:** *Horticultural exports* generated \$642M in 2016

In 2016, Tanzanian horticultural exports were valued at \$642 million, up 17.8% compared to the year before (\$545 million), thecitizen reported.

In parallel, horticulture has contributed to 43% of export earnings, confirming its position as the sub-sector of activity with the fastest growth rate in the agricultural sector.

Tanzania's horticultural output includes fruits (avocado, pineapples, banana and passion fruit), vegetables (carrots, fresh beans, cabbage, cucumber, tomatoes and onions) and cut flowers.

#### Correction

In our last issue we erroneously captioned the below photograph. The Right caption should be:

Mr. Shirish Ingale receives IFTEX award from KFC Chairman Mr. Richard Fox



Exports of ornamentals were worth  $\pounds 66$  million in 2016 a 20% increase on 2015.

# REGONA

# Florensis Kenya achieves 93% energy savings with LED lighting



Philips Lighting has helped Florensis Kenya, a supplier of bedding plants cuttings, realize energy savings of up to 93% in comparison to incandescent lamps. At the same time its second generation Philips Greenpower LED flowering lamps prevent the bedding plants from blooming too early, resulting in plants producing a higher amount of cuttings.

Florensis Kenya replaced its existing 150-Watt incandescent bulbs with 11-Watt GreenPower LED flowering lamps, resulting in energy savings of 93%. This significantly reduced the company's operational costs as electricity prices in Kenya are high at EUR 0.17 per kW.

"This takes our operations to the next level," said Eddy Verbeek, General Manager at Florensis. "Our customers appreciate the improved quality thanks to the prevention of early flowering and we feel good about further reducing our environmental impact with these energy savings."

Florensis Kenya is a provider of annual and perennial cuttings, including Pelargoniums, Impatiens and Chrysanthemum. It has worked with Philips Lighting since 2010, when the grower

started using a combination of the first generation of Philips GreenPower LED flowering lamps and incandescent lamps. Since then the grower has been working with Philips Lighting and UFO Supplies BV, a Philips Horti LED lighting partner, to explore moving to 100% LED lighting as incandescent lighting consumes high amounts of electricity and is strongly impacted by the frequent fluctuations in the Kenyan power supply, reducing lifespan of the incandescent lamps.

"The advantage of working with Philips Lighting and UFO Supplies is the high level of knowledge and experience they have in defining the right lighting spectrum for different crops. Our entire agronomy department benefited from that," Verbeek said.

### Kenyan Rose to Conquer the Russian Market

The number of Kenyan companies at the exhibition FlowersExpo'2017 in the new season has increased significantly. This is explained by the attractiveness of the Russian flower market and the desire of the participants to communicate directly with their Russian partners and consumers.

The import of roses from Kenya to Russia in

recent years has significantly outpaced all other countries and has grown by more than 50%. Rose was the second most important source of profit for the Kenyan budget, bringing in from the sale of flowers 400 million euros a year.

The companies of Kenya are AAA Growers; Everest Enterprises Limited; Floriken Blooms; Horticultural Crops Directorate; Milele

#### **De Ruiter Cocktail Party**



<sup>•</sup>Creating flower business' may be the pay-off of Dutch rose breeding company De Ruiter, but they know for sure it's not all business what's round the clock. Two years ago, when the company celebrated its 100th anniversary, they threw a big party and there's no reason to abandon this tradition. Besides business, fun and networking also plays an important part in this busy trade fair week. To cut a long story short: Yesterday the De Ruiter Cocktail party took place at the historical Aalsmeer auction and we have the photos.

Just like De Ruiter Innovations, the Aalsmeer auction was founded over 100 years ago. With growers, suppliers, traders and buyers and the logistic suppliers, quite a big part of the supply chain was united here. Talk of the day was not only the new marketing concepts De Ruiter introduced this week at the IFTF and the FloraHolland Trade Fair (Big Five and Cuatro x Cuatro), but also the old movies that were played at this special location.



Flowers; Molo Greens; Subati Group; Waridi; ZNS Group - are waiting for all interested in cooperation on September 12-14 at the exhibition FlowersExpo'2017 in IEC "Crocus Expo", pavilion 1, hall 3.

# MARKEINGBRIEFS

# Boosting the German market through collaboration BGI and Royal FloraHolland

oyal FloraHolland will become a Fördermitglied - literally a supporting member - at the Verband des Deutschen Blumen Gross- und Importhandels (BGI). This membership will enable Royal FloraHolland and its partners to work towards developing and stimulating the German market. Royal FloraHolland announced these plans last weekend at BGI's Verbandstag in Essen.

The Fördermitglied position means that we will work with our partners to strengthen the German market. This fits seamlessly in with other Royal FloraHolland partnerships around the world to promote the floriculture sector.

Germany is the most important market for Royal FloraHolland's growers. BGI is a nonprofit organisation and represents the interests of players in floriculture on the German market. Its goal is to enable the floriculture sector to operate optimally in Germany.

#### Boosting the German market

The German market needs a boost. The share of wallet is decreasing, consumer spending has not risen in years, young consumers are lagging behind and there is also no growth in Royal FloraHolland's export position there, despite it increasing in other countries. One important direction for BGI is stimulating consumer spending. The general interests that BGI promotes also fits the neutral character of Royal FloraHolland well.

Royal FloraHolland will not put its own efforts into boosting the German market. "We will maintain our position, and that means that in our role as neutral growers and traders on the market, we will provide the best support we can," explains Lucas Vos, CEO of Royal FloraHolland. "Our joint interest is a healthy German market and we will work with other entities who share this goal."

#### Collaboration

Royal FloraHolland has already entered into various partnerships across the world to brainstorm and to work on a wide range of subjects related to our role as marketplace. A few examples are Florint, the 'International Florist Organisation' and the 'Floriculture Sustainability Initiative' which promotes sustainability in the sector. In the Netherlands, Royal FloraHolland supports the VGB. Through the Fördermitgliedschaft at BGI, Royal FloraHolland will now collaborate to stimulate the market in Germany.

#### **BREXIT:** Challenging Perspective for Floriculture



th a market share of around €1 billion and as the second largest import market for floricultural products, the UK is a major destination for flowers & plants suppliers and traders based in the EU, but also in Kenya, Colombia and the rest of the world. The forthcoming exit of the UK from the EU by March 2019 offers challenging perspectives for floriculture businesses and uncertainty remains high as various scenario are being envisaged for the future trade relations between the UK and its current trade partners in the EU and in the rest of the world.

Given the importance of the UK market for its international membership, Union Fleurs is active in Brussels and beyond to give visibility to the future implications of Brexit on floriculture businesses and to attract the attention of negotiators and policy-makers on both the EU and UK sides on the particular needs of the global floriculture chain in the context of Brexit.

Most recently, Union Fleurs Secretary General Sylvie Mamias has met with the EU Brexit Task Force in Brussels and with the UK and EU missions at the World Trade Organisation (WTO) in Geneva, together with other representatives from the agri-food trade. She has also been kindly invited to take part together with members in various high-level Brexit meetings organised in the Netherlands by the Netherlands British Chamber of Commerce and had for example the privilege to exchange views with Dr Liam Fox, the UK International Trade Secretary, and bring his attention to the floriculture sector. Monitoring, advocacy and lobbying efforts will be continued by Union Fleurs as further developments in the Brexit process will unfold.

# MARKEINGBRIEFS

# Kenyan Flower Exporters Prepare to Seize U.S Market Opportunities

n September 14, the Hub held a Kenva Flower Stakeholders Workshop in Nairobi, Kenva to discuss U.S. market opportunities for Kenyan floriculture exporters. A total of 50 floriculture value chain stakeholders attended the meeting. Stakeholder comments from the meeting will inform the ongoing Kenya National AGOA Strategy review and the Kenya Flower Council USA market promotion action plan. The Senior Deputy Permanent Secretary for Kenya's Department of Trade, Mr. Samson Wangusi, opened the meeting and emphasized Kenyan's commitment to ensuring full utilization of the African Growth and Opportunity Act (AGOA).

"As Kenyans we are grateful to the U.S government for renewing AGOA for another ten years. The extension of the AGOA program until 30th September 2025 provides the business community with an opportunity to plan and execute their export plans properly to increase AGOA utilization and reap maximum benefit by 2025," said Senior Deputy Permanent Secretary Wangusi pictured above.

The Hub is providing technical support to the Kenyan government to review the Kenya AGOA Strategy and implementation of action plans to maximize utilization of AGOA benefits. The strategy will outline key sectors and product categories for increasing export competitiveness and trade with the U.S. One of the key sectors is certainly floriculture.

In the 2015 - 2016 period, the U.S. was the world's largest importer of cut flowers

and third largest importer of ornamental products, such as live trees and plants, bulbs, roots, cut flowers and ornamental foliage. The U.S.'s top flower import is roses, which happens to be Kenya's top export. With direct flight to the U.S. from Nairobi about to commence, flower business between the U.S. and Kenya could take off.

Kenya's total exports to the USA were valued at U.S \$ 569 million in 2016 down from U.S \$594 million in 2015. Increase of flower exports to the U.S may recover what we lost in 2016," said Senior Deputy Permanent Secretary, Mr. Samson Wangusi.

The Hub is committed to supporting increased flower exports from Kenya to the U.S under AGOA. As part of this support, and following a request from the Kenya Ministry of Trade and the Kenya Flower Council, the Hub retained the services of a flower sector export consultant to conduct workshops and a U.S market analysis that will play a key role to position Kenya's cut flowers in the U.S market.

It is wonderful to see the interest and enthusiasm displayed by a wide range of players in the cut flowers sector at today's event. The Hub is committed, with our partner, the Kenya Flower Council, to increasing the export of Kenyan flowers to the US market under AGOA. The sector has been identified as a key one under the National AGOA Utilization Strategy which is ongoing, and direct flights to the US from Nairobi will hopefully make this dream a reality," said Hub's Trade Promotion and AGOA Director Finn Holm-Olsen.



## Kenya faces two hurdles in quest for direct US flights

Jomo Kenyatta International Airport (JKIA) will undergo the final audit by the United States Transportation Security Administration (TSA) at the end of this month to assess safety standards before it is given the last point of departure (LDP) status.

If the audit becomes successful, Kenya Airways will have moved closer to starting direct flights to the US next year, as it will have cleared one of the remaining two hurdles for direct Kenya-America flights.

Under the TSA's rules, security measures, both overt and covert, have been enhanced for passengers at all last point of departure airports to the United States.

These security measures include, but not limited to enhancing overall passenger screening, conducting heightened screening of personal electronic devices, and increasing security protocols around aircraft and in passenger areas.

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA- Flowers-Rumuruti	Roses	Rumuruti	Shailesh	0722 203750	shailesh.rai@aaagrowers.co.ke
AAA- Flowers -Chui Farm	Roses	Timau	Shailesh	0722 203750	shailesh.rai@aaagrowers.co.ke
AAA Growers	Vegetables / Flowers	Nairobi			
AAA-Chestnut		Narumoru			
AAA-Growers		Nakuru Thika	Chause	0701770706	
AAA-Hippo AAA-Roses	Roses	Rumuruti	Steve Julius Ruto	0721778736 0720330039	julius@aaagrowers.co.ke julius.ruto@aaagrowers.co.ke
Acacia Farm-Sunripe	nuses	Naivasha	Antony	0711827785	naivasha@sunripe.co.ke
Africala	Roses	Limuru	Meindert	0/1102/705	meindert@africalla.com
Africa Blooms	Roses	Salagaa	Ravindra Chaudhari	0723159076	ravindra.chaudhari@xflora.net
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	noses	Nakuru	Reuben	0723920237	pineuquiunoversicom
Balaji Flowers	Roses	Olkalou	Erastus Simiyu	0711393248	erastus190@gmail.com
Baraka Farm	Roses	Ngorika	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
Bliss Flora Ltd	Roses	Njoro	Appachu Sachin	0789101060	appachu7@yahoo.com
Blue Sky		Naivasha	Mike	0720005294	info@blueskykenya.com
Bloom Valley		Salgaa	Ramnath Sarbande	0780314387	ramnath.sarbande@xflora.net
Blooming Dale Roses Kenya Ltd	Flowers	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms	Roses	Nakuru	Shivaji Wagh	0720895911	shivaniket@yahoo.com
Carnation Plants	Roses	Athiriver	Ami R.	0733626941	amir@exoticfields.com
Carzan (K) Ltd	Summer flowers-	Salgaa	Mahesh		seb.chambers@carzankenya.com
	Hypericum, Carnations	5			- ,
Charm Flowers	Flowers	Athiriver	Ashok Patel	020 352583	ashki@charnflowers.com
Colour Crops	Hypericum	Nanyuki	Kennedy Wanyama		colourcrops@tmu.com
Colour crops	Summer Flowers-	Bahati	Patrick Kipkurui	0727806184	kipkirui89@gmail.com
	Hypericum, Veronica				
Colour crops Naivasha	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Credible Blooms	Flowers	Rumuruti	Eliud	0722382859	
Credible Blooms	Flowers	Ngong	Eliud	0722382859	
Dale Flora	Roses	Mogotio	Ajay Sutar	0711102266	ajay.sutar24@gmail.com
Delemere Pivot	Vegetables	Naivasha	Daniel Ondiek	0720395963	daniel.ondiek@vegpro-group.com
Desire Flowers	Flowers	Isinya	Rajat Chaohan	0724264653	rajatchaohan@hotmail.com
De ruiters	Breeder Roses	Naivasha	Fred Okinda	0722579204	Fred.okinda@deruiter.com
Double Dutch	Cuttings	Naivasha	James Opiyo	0723516172	Opiyojames160@gmail.com
Dummen Orange	Flowers Breeders	Naivasha	Steve Outram	0733 609863	s.outram@dummenorange.com
Elbur flora	Roses	Nakuru	Daniel Moge		
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Equinox	Flowers	Nanyuki	Harry Kruger		harry@equinoxflowers.com
Everflora Ltd.	Flowers	Thika	Bipin Patel	0735873798	everflora@dmblgroup.com
Fairy Flowers	Flowers	Limuru	Sylivester	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			
Finlays -Tarakwet	Flowers	Kericho	Lelon Chepkwony		
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	Japheth Langat	0722 863527	japheth.langat@finlays.co.ke
Flamingo Flora	Roses	Njoro	Sam Nyoro	0721993857	s.ivor@flamingoflora.co.ke
Flora ola	Roses	Solai-Nakuru	Lucas Choi	0721832710	lucas.floraola@gmail.com
Flora Delight	Summer flowers	Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke
Florenza Flowers	Roses	Solai	Yogesh	0737453768	farm.florenza@megaspingroup.com
Fontana Ltd-Salgaa	Roses	Salgaa	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd - Akina farm	Roses	Njoro	Mahindra Patil	-	-
Fontana Ltd - Ayana Farm	Roses	Mau Narok	Gideon Maina	0721 178974	gideon@fontana.co.ke
Fox Ton Agri	10505	Naivasha	Jim Fox	0722204816	jim@foxtonagri.com
Frigoken K Ltd	Vegetables	Nairobi	Nicholas Kahiga	0722797547	nicholas.kahiga@frigoken.com
Gatoka Roses	Roses	Thika	Micholas Kaniga	0/22/3/34/	menolas.kaniga@mgoken.com
Gladioli Ltd	NUSES	Naivasha	- Pieriguichi / Claudia	0722206939	- torres.palau@yahoo.com
	Roses	Olkalao	Umesh Choudhery	0739729658	umesh@bth.co.ke
Golden Tulip Laurel Investment	Roses	Olkalao	Rajendra	0/39/29030	umesn@btn.co.ke
				-	
Gorge Farm	Roses	Naivasha	Patrick Mulumu	0722498267	pmulumu@vegpro-group.com
Groove	Flowers	Naivasha	John Ngoni Dive Kine eni	0724448601	grovekenya@gmail.com
Harvest / Manjo Plants	Roses	Olkalao	Pius Kimani	-	
Harvest Ltd	Roses	Athiriver	Julius Oloo	-	-
Highland plantations	Cuttings & Herbs	Olkalou		0702202466	production@highlandplants.co.ke
Imani Flowers	Summer Flowers	Nakuru	Raphael Otieno	0792302466	raphael@imaniflowers.co.ke
Indu Farm		Naivasha	Wesley Koech	0715546908	
Indu -Olerai Farm		Nakuru	Everline Debonga	0723383160	everlyne.adhiambo@indu-farm.com
Interplant Roses	Roses	Naivasha	Gavin Mourittzen	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	Molo	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@kenfloraa.com
kensalt Ltd	Flowers	Solai	Pravin		
Kentalya		Naivasha	Linnet	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
Laurel Investment	Roses	Nakuru	Rajendra Jadhav	0738359459	rajendra.laurel@bht.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	11 1
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@maganaflowers.com
Mahee Flowers	Roses	Olkalao	Rao Venkatesh	0705401431	maheefm@eaga.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflowers.com
Maua Agritech	Flowers	lsinya	Madan Chavan	0738669799	production@mauaagritech.com
Mau Flora	Roses	Molo	Mahesh	0787765684	mahesh@mauflora.co.ke
Milmet/Tindress Farms	Flowers	Solai	Pravin		pravinyadav.29@gmail.com
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FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Molo Greens	Summer Flowers	Molo	Justus Metho	0722 755396	justus@mologreens.com
Mt Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395,	bob@mtelgon.com
Mwanzi Flowers Ltd	Roses	Rumuruti	Ram	0722265845	-
Mweiga Blooms	Flowers	Nanyuki	Stewart/ Mburu	0721674355	mweigablooms@wananchi.com
Mzuurie Flowers - Maji Mazuri	Roses	Eldoret	Mark Juma	0727471034	mjuma@majimazuri.co.ke
Mzuurie Flowers - Molo River Roses	Flowers	Kilelwa	Andrew Wambua	0724256592	awambua@moloriverroses.co.ke
Mzuurie Flowers - Winchester Farm	Roses	Karen	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Mzuurie Flowers - Winchester Farm	Flowers	Bahati	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Nini Farms	Roses	Naivasha	Philip Kuria	0720611623	production@niniltd.com
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
OI Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Olij Kenya Ltd	Roses	Naivasha	Sally Nicholas	0737888028	v.bhosale@olijkenya.com
Oserian	Flowers	Naivasha	Musyoka Stephen	0722888377	stephen.musyoka@oserian.com
Panda Flowers	Roses	Naivasha	Chakra	0722888377	chakra@pandaflowers.co.ke
Panocol International		Eldoret	Mr. Paul Wekesa	0722748298	
	Roses	Thika			paul.wekesa@panocal.co.ke
Penta United Selections	Flowers		Tom Ochieng	0723904006	-
	Roses	Nakuru	- Circulture	-	-
Pj Dave Bi Flora	Flowers	lsinya	Simiyu Palani Muthiah	0723500049 0752607651	pjdavetimau@pjdaveepz.com
Pj Flora	Flowers	lsinya			muthiah.palani1971@gmail.com
Pj Flowers Ltd	<b>C</b>	Kiambu/Limuru	Elizabeth Thande	0722380358	elizabeth@wetfarm.co.ke
Plantation Plants	Cuttings	Naivasha	William Momanyi	050 20 20282	pplants@kenyaweb.com
Porini Flowers	Roses	Molo	Vivek Sharma	0731040498	gm@poriniflowers.com
PP Flora	Roses	Nakuru	Prakash	0718045200	ppflora2010@gmail.com
Primarosa Flowers Ltd	Roses	Olnjororok	Shantaram	0701464049	production.p2@primarosaflowers.com
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 Roses (K) Ltd	Flowers	Naivasha	Peterson Muchuri	0716589898	fm@riftvalleyroses.co.ke
Rimiflora Ltd	Hypericum	Njoro	Richard Mutua	0722357678	richard@rimiflora.com
Riverdale Blooms Ltd		Thika	Antony Mutugi	0202095901	rdale@swiftkenya.com
Roseto	Roses	Roseto	Arvind	0734848560	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
Sojanmi Spring Fields	Roses	Njoro	Ashesh Mishra	0792217088	ashesh@xflora.net
Schreus	Roses	Naivasha	Haiko Backer		
Shades Horticulture	Flowers	lsinya	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 (K) Ltd	Roses	Nakuru	<b>Clement Ngetich</b>	0723159619	cngetich@sianroses.co.ke
Sian Roses - Equator Roses	Roses	Nakuru	Nehemiah Kangogo	0725848910	nkangogo@sianroses.co.ke
Sian Roses - Equator Flowers	Roses	Eldoret	Charles Mulemba	0721311279	cmulemba@sianroses.co.ke
Sierra flora	Roses	Njoro	Sharieff	0787243952	farm.sierra@megaspingroup.com
Simbi Roses	Roses	Thika	Karue Jefferson	067 44292	simbi@sansora.co.ke
Sirgoek Flowers	Flowers	Eldoret	Andrew Keittany	0725 946429	sirgoek@africaonline.co.ke
Solai Milmet/Tindress	Flowers	Nakuru	Ravindra	0737801646	solairoses@gmail.com
Subati Flowers	Roses	Subukia	Naren Patel	0712 584124	naren@subatiflowers.com
Subati Flowers	Roses	Naivasha	Naren Patel	0712 584124	naren@subatiflowers.com
Suera Flowers Ltd	Roses	Nyahururu	George Kimathi	0724622638	gkbuuri@gmail.com
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
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
		Thika			
Syngenta Flowers - Pollen	Flowers	HIIKd	Joseph Ayieko	0733552500	joseph.ayieko@syngenta.com

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Tambuzi	Roses	Nanyuki			
Timaflor Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflor.com
Transebel		Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke
Tropiflora		Kiambu/Limuru	Niraj		tropiflora@africaonline.co.ke
Tulaga Flowers	Roses	Naivasha	,		
Tulaga Flowers	Roses	Rumuruti	Gideon Kariuki	0701153844	tulagamarmanet@africaonline.co.ke
Tk Farm		Nakuru	Gichuki	0721499043	davidgichuki20@yahoo.com
Uhuru Flowers	Flowers	Nanyuki	Ivan Freeman	0713889574	ivan@uhuruflowers.co.ke
United Selections	Roses -Breeder	Nakuru	Jeroen Van Marrewijk	0700176556	jvanmarrewijk@united-selections.com
V.D.Berg Roses	Flowers	Naivasha	Johan Remeeus	0721868312	
Valentine Ltd		Kiambu/Limuru	Maera Simon	0721583501	simon.maera@valentinegrowers.com
Van Kleef Ltd	Roses	Njoro	Rathan	0787266007	rathan@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	<b>Richard Mc Gonnell</b>	0722810968	richard@wac-international.com
Waridi Ltd		Athiriver	P. D.Kadlag	0724-407889	kadlag@waridifarm.com
Wildfire	Flowers	Naivasha	-	-	roses@wildfire-flowers.com
Wilfay Flowers	Gypsophila/hypericum	Subukia			
Wilmar Agro Ltd	Summer Flowers	Thika	Alice Muiruri	0722 321203	alice.muiruri@wilmar.co.ke
Windsor		Thika	Vikash	073705070	vikash@windsor-flowers.com
Xpressions Flora	Roses	Njoro	Brijesh Patel	0715469732	brijesh.patel@xflora.net
Zena -Thika Farm	Roses	Thika	Vincent	-	sales@zenaroses.co.ke
Zena - Asai Farm	Roses	Eldoret	-	-	sales@zenaroses.co.ke
Zena Roses - Sosiani Farm	Roses	Eldoret	Phanuel Ochunga	0722506026	pochunga@zenaroses.com

### **FLOWER FARMS IN UGANDA**

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

### **FLOWER FARMS IN TANZANIA**

ТҮРЕ	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
Crysenthemums	Multi flower Ltd	Tjerk Scheltema	Arusha	255 27 250 1990	tjerk@arushacutting.com
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

ТҮРЕ	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Hypericum	Abssinia flowers	Sendafa		+251 11 6653911	office@abyssiniaflowers.com
Cuttings	Abyssinia Ornamental	Ronald	-	+251 911490231	ronald.vijverberg@florensis.com
Roses, Summer Flowers	Afriflowers PLC	-	-	+251 937977849	ethiopia@bellaflor-group.com
Roses	Agriflora PLC	M. Asokan	Holeta	+251 112372324	flowers@ethionet.et
Roses	AQ Roses PLC	Frank	Ziway	+251911706234	frank@aqroses.com
Hypericum	Assela Flowers farm PLC			+251 118237091	office@asellaflowers.com
Roses	Braam Flowers PLC	Ben Braam	Ziway	+251 464413137	braam.roses@gmail.com
Gypsophila, Solidago,	Beti Omamental			+251 930070000	betiomamentaldz@gmail.com
Limonium					
Cut Flowers	Condor Farms PLC			+251 911337207	haileseifu1@gmail.com
Cuttings	Desa Planta PLC			+251 116569195	gizbeley@yahoo.com
Roses	Dugda Floriculture Dev. PLC	Sayalfe Adane	Debra Zyeit	+251111566311	general@dugdaflora.com
Roses	Ethio Dream PLC	Holeta	Ethiopia	+251 116189313/14	ethiodream@ethionet.et
Roses	Ethio- Agri- CEFT	Levi	Holeta	+251 116621030	agriceft@ethionet.et
Roses	Enyi- Ethio Roses	Teshale	Sebata	+251113481981	enyiethiopia@gmail.com
Roses	ET- Highland Flora PLC		Sebata	+251 114660982	bnf2etf@ethionet.et
Roses	Eden Roses	Vibhav Agarwal	Sebata	+2518959343	vaibhavaggarwal1@gmail.com
Cuttings	Ethiopian Cuttings PLC	solomon	Koka	+251 116633073	solomon.desta@syngenta.com
Carnation	Ethiopian Magical Farm	Ramadi		+251 552 9936	emf@ethionet.et
Roses	Euro Flora PLC			+251 118602075	ramadi.gowoda@gmail.com
Roses	Friendship flowers PLC	Edwin	Debra zyeit	+251 118602293	edwingruijil@gmail.com
Freesia & Statis	Freesia Ethiopia PLC	Ronald Vijvrberg	Sebata	+251 116450503	freesia@ethionet.et
Cuttings	Florensis Ethiopia PLC	Netsanet Tadasse	Koka	+251 116525556/57	florensis@ethionet.et
Roses	Flowerama PLC			+251 115157924	floweramaa@hotmail.com
Roses	Gallica Flowers PLC			+251 11 2849368	gallica@ethionet.et
Roses	Golden Rose Agro Farm Ltd	Mr. Sunil	Sebata	+251 115507144	goma@ethionet.et
Roses	Herburg Roses PLC	Hubb	Ziway	+251 464414281	huub@herburgroses.nl
Roses	Hortanzia	Mr Micheal Owen	Arusha	255 784 200 827	hortanziagm@cybernet.co.tz
Roses	J.J. Kothari PLC			+251 114661155/12	j.jkothari@gmail.com
Roses, Herbs	Joytech PLC	mulugeta Meles	Debra Zyeit	+251 116620205	jagdish@joytechplc.com
Roses	Joe Flowers PLC			+251 112372016	jflowers@ethionet.et
Roses	Karuturi Sai Ramarkrishna			+251 116632437/39	jagdeep.singh@karuturi.com
Lilium	Klaver Flowers PLC			+251 916581769	klaverflowers@gmail.com
Roses	Lafto Roses PLC	Gerard	Sebata	+251 115541485/83	gerard@vanderdeijl.nl
Roses	Linssen Roses	Peter Linsen	Holeta	+251 113205668	linssenroseset@ethionet.et
Cuttings	Maranque Plants PLC	Mark Drissen	Merjetu	+251 113725145	md@maranqueplants.com
Hypericum	Marginpar Ethiopia PLC	Hayo Hamster Holeta		+251 1137116223	marginpar@ethionet.et
Roses	Minaye Flowers PLC	Eyob Kabebe	Debra Zyeit	+251 113728666	minaye@ethionet.et
Hypericum , Veronica	Mullo Farm PLC/Derba PLC			+251 116639559	mullo@ethionet.et
Roses	Mt. Meru	Tretter	Arusha	255 27 2553385	office@mtmount-meru-flowers.com
Roses	Oda Flowers			+251 111561572/73	ethiopassion@ethiopassion.com
Roses	Olij Roses Ethiopia PLC	Bas Van der lee	Debra Zyeit	+251116525571/7	info@olijethiopia.com
Roses	Oromia Wonders PLC			+251935998751	hfeven@gmail.com
Roses	Rainbow colours PLC	Tadessa Kelbessa	Debra zyeit	+251116461105	rainfarm@ethionet.et
Cuttings	Red Fox Ethiopia PLC	Hamilton	Ziway	+251221129252	b.hamilton@ethiopia.redfox.de
Roses	Roshanara Roses PLC			+251 1161833087/88	roshanaraexport@gmail.com
Roses	Saron Roses Agro-Farm PLC		Sebata	+251 114625551	saronfarm@gmail.com
Roses	Sathiya Sai Farm PLC				roshanmutheppe811@gmail.com
Roses	Selam Flowers PLC	Etsegenet Shitaye	Sebata	+251 116463851	selamfwr@ethionet.et
Roses	Supra Floritech PLC	Kaka Shinde	Holeta	+251116633745	suprafloritechplc@yahoo.com
Roses	Sher Ethiopia PLC	Ramesh Patil	Ziway	+251 116185353	sherethiopia@ethionet.et
Summer Flowers	Tal Flowers PLC	Mr. Uri	Sebata	+251 116517394	uridago@gmail.com
Roses	Tana Flowers PLC			+251 58220047495	tanaflora1@ethionet.et
Roses	Tengeru Flowers	Tretter	Arusha	255 27 255 3834	"
Roses	Tinaw Business PLC			+251 113720110/11	tinawflower@gmail.com
Roses	Yassin Legesse Flower Farm S.C	Tesfaye Gidissa	Debra zyeit	+251 1161870951	yassinlegesse@yahoo.com
Hypericum	Yalkoneh PLC -		Sebata	+251 911331021	frans.diedens@gmail.com
Roses	Z. K Flowers	Abebe Mamo	Debra zyeit	+251 114664476	zkflowers@gmail.com
Roses	Ziway Roses	Ermiyas Solomon	Ziway	+251464417274	ermiasziwayroses@gmail.com





# HAMPIRON X55

A speciality Micro Nutrient Fertilizer from AkzoNobel Netherlands to Cure and Prevent Iron Deficiency

# Benefits

- Unique 6% Fe HBED Chelate with an outstanding stability for faster & long lasting correction of Iron Defeciency)
- Non dusting fully water soluble micro granules which guarantees safety to the users & zero blockages on the irrigation lines
   100% chelation with 5.5% Ortho Ortho Isomers
- Stable in a wide range of PH and suitable for both soil and soilless culture
- It is the only Potassium based chelate free from sodium in the market
- Very cost effective

Amiran

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