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# DeRuiter

creating flower business



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# De Ruiter creates genetics for low altitude T-Hybrid Mix

**W**ith a century of breeding experience globally and over 20 years in Kenya, De Ruiter is the oldest rose breeder in East Africa. The company considers rose farming as serious business 'Every day is Valentine's Day' and we stick by our motto 'Creating Flower Business'. With offices in the Netherlands, Kenya, Ethiopia, Colombia, Ecuador and China the company is truly a global brand.

De Ruiter (E.A) breeds bespoke rose varieties at its 4ha farm on the shores of Lake Naivasha which are then grown commercially on over 60 farms throughout Kenya, Tanzania, Uganda, Ethiopia and newly emerging Rwanda. Steady growth in sales year on year sees De Ruiter selling over 100ha of varieties annually.

The company has recently been striving to increase its market share in the low altitude T-Hybrid varieties and feels it has created enough synergy at this level with +5cm head sizes, +60cm stem

lengths (Ensuring auction marketability), excellent vase life performance, good pest & disease resistance & 140 stems p/ sqm production figures.

Varieties such as Kamala (Red), Militsa (Pink), Aisha (White), Lovely Rhodos (Light Pink), Pink Rhodos (Hot Pink), Navarra (Bi-Pink), Pink Ice (Pink), Opala (White/Cream), Royal Flush (Orange) & many Bi-Yellow's.

This will provide the market with new lines and an improved quality and saleability of larger head sizes as demanded by most of the retailers and consolidators during the dynamic market changes and new demands.

It is estimated that during peak times like that of Valentine's Day & Mother's Day, one in three roses sold globally, earning Kenya in excess of Ksh75 billion annually usually passes through De Ruiter's stringent breeding program.

What has contributed to this tremendous growth is an ever increasing competitive market which De Ruiter embraces with efficiency and delivery

of strong, desirable varieties in a transparent manner, availing critical market information such as price changes & competitive rate structuring meeting grower's needs.

De Ruiter's selling point revolves around several key aspects but top of the list is our unique and agronomical approach where we update our growers with the latest advice to boost their production to earn more per stem at the market. De Ruiter believes in marketing strategies of its wide range of varieties in the world's largest flower auction in the Netherlands, long shelf life, which are less prone to diseases and pests has also contributed to their prominence in the local and international markets.

With a continuation of rising production costs in an ever increasing competitive market, rose growers are relying more than ever on breeder's knowledge and experience to produce better rose varieties year on year therefore De Ruiter is considered a breeder truly 'Creating Flower Business'.

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## || HORTISPOT ||

The Kenya Flower Council reports a growing anxiety by growers and other businesses as the cost of business in the country erodes profit margins. - Bimal Kantaria



## Take greater care of our flowers

Last June, the global flower fraternity gathered in Nairobi for the annual International Flower Trade show (IFTEX 2016).

The three-day showcase of arguably the world's best flowers attracted buyers of the multibillion produce from all continents to Kenya where growers had staged a magnificent mix of all types, colours, and sizes.

When one looks at a stem or a bouquet of flowers, few think about the process that delivers a two-week shelf life product to a house in China. In industry circles, this is called the value chain, from farm to the shelf.

The flower industry supports an estimated 2 million people through direct and indirect employment and last year earned the country some Ksh 56 billion in foreign exchange.

Conserve estimates put investments in this sector at more than Ksh 100 billion invested by local and foreign investors.

The organizer of IFTEX, Dick Raamsdonk of HPP Netherlands, said Kenya is in a class of its own in the flower business and that the Nairobi version of the international flower shows is headed to becoming the biggest globally.

The beauty of the flowers at the show, the diversity of produce and visitors from all over the world, the foreign exchange earnings and the billions of investments are indicative of a rosy sector.

The Kenya Flower Council reports a growing anxiety by growers and other businesses as the cost of business in the country erodes profit margins. Other flower growing countries have waged a trade war with Kenya to break our dominance in a market that has 'matured' in terms of supplies leaving little room for expansion at producer level.

A number of growers say flower growing is no longer a profitable undertaking under the current business cost regime requiring urgent measures to cushion producers against unhealthy competition from countries with less costly systems.

Among these is the availability and cost of credit to enable suppliers of vital products and services like Elgon Kenya to readily extend acquisition of the goods to the growers.

The crunch in credit has made it difficult for the value chain to operate smoothly given that the sector is a heavy capital consumer whose success depends on speedy and timely delivery of the required products and services given the seasonality and timeliness of the end product that is perishable by nature.

Under the prevailing circumstances, it is important the private sector and government agree on a platform that is supportive of a sector that gives Kenya national pride as was seen at the just ended flower show.

It is said that Kenya is where Netherlands was 20 years ago, and if we are not careful, we could be where Netherlands is now (no longer a major producer) in twenty years and Ethiopia will be where Kenya is today – a major producer.

Everything possible must be done to safeguard an industry that we have built for 30 years.

**Bimal Kantaria is the managing director, Elgon Kenya Ltd**

# Kibo Motorcycles: Designed in Holland, Made in Kenya, Built for Africa

**M**otorcycles have become a popular mode of transport in Kenya over the past years. But even before that trend started, farmers have used their “farm bikes” for all kind of activities on and around the farm. As we all know, the horticultural sector in Kenya has strong links with the Netherlands. Now there is Kibo: a new motorcycle brand that has strong links with the Netherlands too. This rugged machine has a lot of appeal to farmers in Kenya.

A motorcycle Designed in Holland, Made in Kenya and Built for Africa? How did that happen? In 2011, Dutch entrepreneur Huib van de Grijspaarde saw the need to develop a motorcycle for the African market. This has evolved into a new brand that is producing the first ever motorcycle especially developed for Africa: the Kibo K150. The vision of Kibo is to unlock economic opportunities by providing safe and affordable mobility.

The Kibo motorcycle is extremely strong, fuel efficient and easy and affordable to maintain. Our target market are companies, NGO's and government organisations. Since the Kibo is brought to the market, we have received very positive feedback from the Kenyan farmer communities. We are extremely happy that the Kibo K150 is perceived as the ideal farm bike by all farmers that have tried it. Our aim is to be the market leader in motorcycles used by businesses. With a payload of 250kg, the Kibo provides flexible and versatile transportation that will save costs to almost any company.

Being a social entrepreneur, Mr Van de Grijspaarde wants to maximize the positive impact of Kibo on Kenyan society. That is why the Kibo motorcycle is assembled fully in Kenya and is therefore officially the first “Made in Kenya” motorcycle. Everything about the bike breathes strength and durability and the bike is designed in such a



way that it is extremely easy to maintain with a limited toolbox. Just like the horticultural sector, it is all about local value addition at Kibo. We are fully compliant with the EAC Local Rule of Origin. This means that the Kibo motorcycles that are produced at our facility along Mombasa Road in Nairobi will be exported to other EAC countries fairly soon. We hope to set an example and provide Kenya with yet another successful export product.

Why is the Kibo ideal for farmers? First of all, it is a dual use bike. This means that it has been designed to perform excellently on both off road conditions as well as on tarmac. The Kibo has a state of the art external frame that is very strong and protects both the machine as well as the rider. The frame also offers many possibilities to safely transport cargo. Kibo is also known for low costs of ownership, with low fuel consumption (42 kilometers

per liter), affordable spare parts and efficient and fast after sales service. Because we are doing a full assembly of over 300 parts, we can safely say that our warehouse is literally packed with spare parts. Safety is very important: Kibo offers a wide range of training options, ranging from beginner training to advanced off road training. We supply gear and accessories ranging from CE certified helmets to fleet management solutions.

Last but not least, the Kibo is designed by engineers that are themselves crazy about motorcycles: this has resulted in excellent riding characteristics and it is very comfortable with abundant passenger and cargo space.

You may think after reading this: I want one for my farm! Get in touch with us via [www.kibo.bike](http://www.kibo.bike) and visit us at the Naivasha Horticultural Fair - we will be happy to organize a test ride for you!





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The Kibo K150 motorcycle has an extremely high payload of 250kg. The Kibo K150 is designed to bring value to your business: low fuel consumption, extremely sturdy, affordable spare parts and the best after sales support.

In short: a long life span at a very low Total Cost of Ownership.

**Designed In Holland   Made In Kenya   Built For Africa**



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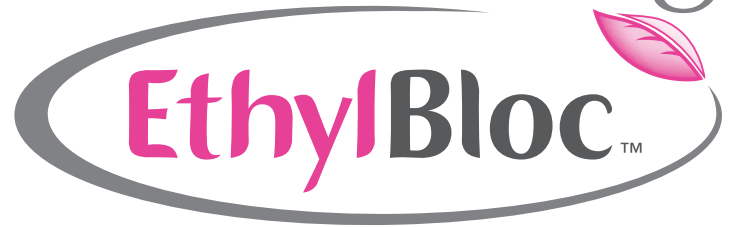


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## Ethylene Damage of Flowers Attributes to Upwards of 30% Flower Loss

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

### Cut flower plant responses to ethylene:

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



Rose - Flower Aging  
Untreated for Ethylene



Rose - Treated for Ethylene



Orchid - Flower Drop  
Untreated for Ethylene



Orchid - Treated for Ethylene



Carnation - Inward Rolling of Petals  
Untreated for Ethylene



Carnation - Treated for Ethylene

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

# Welcome to Naivasha HortiFair

**W**elcome to Naivasha Hortifair Fair 2016, this year's Naivasha Horti Fair which will be held on the 23rd and 24th September at the Naivasha Sports Club.

Naivasha Horti Fair continues to be an important part of the Horticultural year and we are slowly moving/developing towards the Agricultural Sector, to try and enhance the small and medium farmers in this sector. It is clear how important the agricultural sector is to the Kenyan people, and the economy. Plus, on the business side, there are many 100,000's small scale farmers, so it is a big business opportunity for all involved parties.

We are proud to announce that the Child Protection Unit that we started building at the Naivasha Police station was officially opened on Thursday 30th June 2016. This shall go a long way to ensuring that child offenders are



**Richard McGonell, Chairman Naivasha Horticultural Fair**

contained in a child friendly and safe environment away from adults. The guest of honour was the Nakuru County

Coordinator of Children's Services Mr. Abdi Sheikh Yusuf



# NAIVASHA

## horticultural fair



# 2016

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"We have managed to cut pest and disease spread considerably with IPM," Lucas Ongere, Farm Manager, Magana Flowers

# Tenacity and innovation at the heart of the 20 year old Magana Flowers journey

By BOB KOIGI

A few years after a breeder introduced a popular flower variety to the market, growers who initially expressed insatiable appetite had for the variety would later uproot it in what they argued was its constant attack by pest and its vulnerability to botrytis and powdery mildew. Magana Flowers Limited however stuck to its guns and decided to carry on growing the variety. This tenacity would later pay off with the farm now being a prime exporter of the A1 variety that continues to excite markets, especially the middle East. Such stamina is synonymous with the farm's

founding father Dr. Magana Njoroge Mungai who over twenty years ago decided saw a vision of transforming the then dairy farm into a horticultural farm exporting French beans and avocados before settling on a flower farm in what he believed was the right venture for his family and one that would create enough jobs for the surrounding community. And it has. Employing over 500 workers, the farm has positioned itself as a key player in Kenya's blooming flower industry capturing prime global markets through the over 110,000 stems of roses that it harvests daily.

But behind the radiant petals and

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

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

At the over 15 greenhouses that are spread across the 18 hectares are biological pest control methods that tackles flower's most notorious pests. The yellow and blue sticky traps, cascading



**Magana Flowers uses donkeys to transport flowers from greenhouses to packhouses as part of green energy initiatives**

through the greenhouses traps both whiteflies and thrips, disrupting their cycles of reproduction. "We have gone big time into Integrated Pest Management which we use hand in hand with the conventional pest control methods. Sticky traps are very effective because they are about playing with the light spectrum of the insects. We have managed to cut pest and disease spread considerably with IPM," said Lucas Ongere the Farm Manager.

But so has hygiene at the farm which explains why the farm has managed to stick with the A1 rose flower variety even when the rest of the growers abandoned

it. For starters the farm embraces the highest form of sanitation ensuring that leaves and dead plants are removed immediately they fall off. Routine prophylaxis treatment which include injecting fungicides to the flowers have been key in building resistance and helping them manage cold weather. It is done three months to the onset of the cold seasons.

The farm has also invested in hydroponics technology, the growing of flowers without soil by making use of water with soluble nutrients necessary for the plant and inert media like coconut peat or pumice.

The idea is to control nutrients taken in by plants, which would be hard to achieve through the use of soil. With water being a scarce resource, hydroponics allow for the recycling of the waste water. Flower farms have recorded between 40 to 60 per cent of the water. "It has also assisted us in protecting the environment since no metal leaks to the soil. We feed our plants through fertigation with the hydroponics technology assisting us in ensuring that the plants only take in what is required with the rest going back to the tank for purification and replenishing," added Ongere.

Magana has also gone big on water conservation and harvesting having installed five reservoirs that traps and stores rain water with a storage capacity of 160,000 cubic meters. The exercise has delivered instant wins for the company which has since April this year been relying on the water it harvested during the long rains to run the operation of the farm.

But equally delivering gains has been the farm's investment in green energy that has helped it cut operation cost by up to 90 per cent. Magana Flowers uses donkeys to transport flowers from the greenhouses to pack houses as opposed to use of tractors. The company is therefore able to scale back on the cost of diesel and maintenance. "Donkeys are low maintenance animals and we have really cut down on our transport expenses by using them. It has also meant that we



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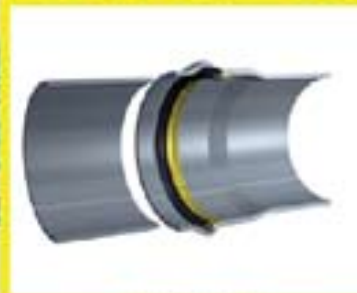
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**Donkeys mow grass reducing use of lawn mowers**



remain true to our resolve of protecting the environment. The donkeys also eat grass meaning we don't have to use lawn mowers which operate on diesel, further ensuring that we do not harm the environment," Ogere added. Plans are in the offing to introduce a solar system targeting energy guzzling operations including pumping and activities at the cold storage. The company estimates it will cut up to 75 per cent of all energy cost once it goes solar.

At the pack house, the final stages of the flower journey, nothing is left to chance with innovations like a unique spraying system complete with nozzles and unique chemicals ensuring that there is no room for diseases like botrytis that might strike. The unique chemical is sprayed in the pack house every evening lasting throughout the night and the next day.

At the packing arena the seamless and harmonized operations of the people doing the sizing, bunching and sorting are credited with the high quality flower varieties from Magana flowers that markets have warmed up to. To further reduce chances of rejection and tracking the flower journey for purposes of traceability, the farm has an elaborate barcoding system that records the buncher code, which entails the name of the person doing the bunching, the flower variety, the date of bunching and the colour of the flower at bunching. The dates are also key in helping the sales team manage stock since the company uses FIFO, First In, First Out system.



**Rain water harvesting at Magana Flowers**

The detailed flower journey is credited with having produced 38 rose flower varieties that continue to excite the markets from the Middle East to Europe and China. Among the flagship varieties include A1, a large headed white variety that enjoys fanatical uptake in the Middle East, Revival, a pink rose large headed variety, that opens very well and has a relatively long vase life, burgundy, a large headed variety and Madam Red, another large headed variety, that opens very well and has a vase life of 16 days.

The company has been struggling to keep up with the growing demand for its roses and is now looking at growing its cultivation area to 25 hectares. "Our philosophy at the company has been to produce the best flower variety at minimum cost. Markets have been so welcoming to our flowers which explains our idea of increasing the area under

cultivation. We have also been reaping the benefits of accessing direct markets as opposed to going through auctions," said Nicholas Ambanya the CEO of Magana Flowers.

Going forward the company is looking at embracing innovation in producing flowers while reaching out to traditionally neglected clientele among them the youth. "We have to keep up innovative in order to surmount growing competition in the industry. We are looking at embracing concepts like the use of dried flowers for certain events and themes for example weddings, or anniversaries. The youth who identify themselves with most of these themes are also in our plan especially because they have been neglected in the business of flowers yet it is easy to win them over," Mr. Ambanya added.





## Snow Glory

Recently added for low and high altitude assortment



## Merapi

One of the recently new varieties



## Galileo

Not new but doing very well in low altitude



## Kazoo BB

Recently added for low and high altitude assortment. This is one of the Brown varieties



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# Magana Flowers invests in Research and Development Unit to meet market demands



**B**uoyed by the changing market dynamics and a need to personalize customer requests, Magana Flowers Kenya Limited is investing in a research and development unit even as it looks to scale the area under cultivation of its flowers to meet burgeoning global demand.

With the current 18.5 hectares of land at the farm under flower production, Magana is looking at increasing that acreage to 25 hectares and has already dedicated some 2000square meters, equivalent of 0.2 ha to grow varieties for trial. “Everyday we keep innovating. But now we have decided to go full throttle into research and development informed by customer and market needs. In order to remain relevant in the market, we have to realign ourselves with market dictates, and this is what we are currently doing with this unit,” said said Lucas Ongere the Farm Manager.

The investment in the R&D is part of a wider strategy that targets key areas that includes expanding area under production, reviewing and improving the work processes, acquiring qualified, talented and skilled personnel, upgrading the growing infrastructure, adding new varieties and renewing the traditional varieties.

The strategy is the brainchild of Joseph Ambanya, the new CEO at Magana Flowers who the board brought in to breathe new life to the over 20 years company. Mr. Ambanya boasts of an illustrious career in farms set-up and administration, contract farming, agronomy, project start-up and management, strategy development and General management. He has been at the helm of key companies in East Africa including East African Growers, Care International and Finlays.

“My ultimate focus is making Magana Flowers the preferred supplier of global

flowers. The strategy we have will deliver us there. The intention is to implement each stage of the strategy before moving to the next one,” said Mr. Ambanya.

To drive this agenda the company has also invested in human resource having recruited personnel in the production, post-harvest and marketing departments.

In further reaching the end user and working directly with customers, which is seeing the company increasingly cut the number of consolidators and move away from the auction system, the company has tasked the marketing department with carrying out market research on what exactly the customers want. “We have to learn to listen to customers. We want to create a rapport that ensures that we can get quality and value to the end user. If we can do this then we have no reason to worry about demand, it will find its way here,” Ambanya added.



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TM

# Nyakio Mungai: Fitting in her father's shoes

By BOB KOIGI

**B**ehind the warm demeanour and hardwork that best defines Mrs. Nyakio Mungai, one of the directors at Magana Flowers is the story of tenacity, hunger for success and a passion for flowers, attributes she inherited from her late father when as a young girl she decided to join the family business and tap into her father's unmatched wisdom and business acumen.

Dr. Magana Njoroge Mungai bought the Magana farm in the late sixties when it was a dairy farm. He wasn't keen on keeping livestock so he decided to try a hand in horticulture starting with French beans farming. His focus was on the export market. Dr. Mungai was adventurous in his forte and a man of times. When he saw an opportunity in avocado farming he jumped ship. In mid-eighties he would venture into apple farming but due to the growing conditions of apples in Kikuyu area the apples didn't take off as he has envisioned. He was not afraid to try and fail - it was all part of the success game to him. So, eventually, from his research and encouragement from friends who were in the industry here and overseas, he decided to go into the long term project of growing flowers towards the end of 1994. He grew to like the essence of a flower and what impact it had on people. He knew that this was a business that would grow over the years. He would always say that flowers spreads love and not war and therefore the guns would go silent.

Nyakio's passion for farming stemmed from her childhood. She would spend a lot of time in the field before Magana became a flower farm, planting and harvesting other crops, while learning from her father.

After finishing college Nyakio would



join in her father's thriving business. It is a journey she has taken a stride at a time, emulating the key lessons she inherited from her father to run a company that has remained steadfast for over two decades weathering the industry's major challenges like the post election violence and market fluctuations. "When I came on board to the Flower farm, it was quite a different ball game. A flower was not just a flower, there were so many aspects to producing a flower for the market. Head size, length, vase life, number of petals, feeding cycles, growing media, differences in variety, type of green houses, market needs, accreditation and so much more. There was lots of interesting stuff to learn in the process and there still is. I think now it's really understanding how policy and a unified accreditation can make a difference in the "Kenya brand" in our robust markets out there," she said

Nyakio who sits in the board of the Kenya Flower Council now looks at moving Magana Flower farm to the level where it provides its clients with the best quality roses while remaining true to its employees. Her strategy together

with the other directors is to in five years increase growing area so as to satisfy its growing clientele. "It has taken me time to understand the business and grow to where I am, it has been a gradual process and therefore I feel appreciative for the opportunity my father presented to us to be able to work together. I believe leadership is having the ability to influence and inspire others to be the best that they can be and to feel valued. If I can participate in doing that with my fellow directors and the other leaders in the company, then definitely it impacts all aspects of the business creating a successful company," she added.

Nyakio a stickler of values is impressed by the direction the country's flower industry is taking in standards, placing women in the front seat and contribution to the economic growth of the country. As a key industry players she looks to the future with unbridled optimism. "It is such a great time being in the flower industry as the brand Kenya flower continues receiving global attention. We look forward to taking this glory to the next level," she said.



# LET'S MEET AT NAIVASHA HORTIFAIR!



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## Ethylene: the invisible killer

*Ethylene causes increased ageing symptoms like wilting, bud and leaf drop with flowers and plants.*

The plant hormone ethylene stimulates ageing symptoms like leaf drop, flower wilting and fruit ripening on flowers and plants. Ethylene is also being produced in “stress situations” such as during dark transport.

Ethylene is a hydrocarbon and colourless, flammable gas with a faintly sweet smell. Ethylene has, contrary to many other plant hormones, a very simple structure ( $\text{CH}_2 = \text{CH}_2$ ). It is produced as a natural hormone by many different flowers and plants to regulate internal processes, such as ripening. Although it also is released through cigarette smoke and vehicle exhaust fumes. Therefore transportation of flowers on the farm should be careful about which methods are used. Trucks should be turned off while unloading and loading of flowers into the packhouse as well as at cargo areas when shipping and receiving flowers internationally.

### Damage

Damage to flowers and plants caused by ethylene results in bud drop, flower drop, leaf drop and the wilting or shrinking of flowers.

The best known product used by growers to protect flowers against the negative effects of ethylene is Silver Thio Sulphate (STS). In the market there are several STS-based post-harvest treatments and Chrystal has **Chrystal AVB**. After harvest, the flowers are put on a solution like AVB which they absorb. When the flowers are treated correctly, they are protected against ethylene and the vase life is extended considerably.

### Precautions

It is very important that growers strictly treat the ethylene sensitive flowers. For example when you notice in your vaselife room that after only a few days your Carnations / Roses shrink, wilt, droop you can take it for granted that they have not been treated correctly.

### TIP

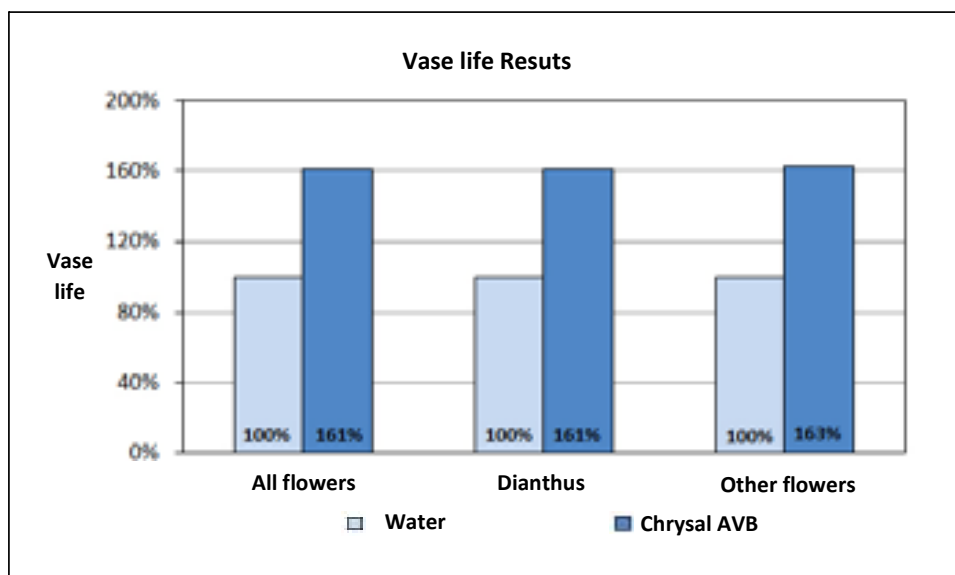
- Make sure your packhouse, cold room and vehicles are well ventilated. This way the ethylene gas cannot build up to harmful concentrations which will have a negative effect on the vaselife of the flowers.

The Beauty of Chrystal



## Test Results

The following graph shows the effect of Chrysal AVB on the vase life of Dianthus and other flowers compared to water alone.



### Vase life Alstroemeria



Treatment: **WATER**

Total vase life: **13 Days**

Photo taken: **Day 20**



Treatment: **Chrysal AVB**

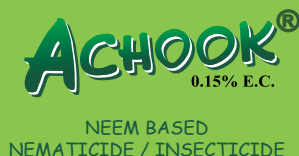
Total vase life: **19 Days**

Photo taken: **Day 20**

# The environmentally friendly crop guide



Ability to absorb 100-200 times its weight in water as well as dissolved nutrients in soils and substrate  
**Reduces** watering frequency for irrigated crops  
Rain water absorbed during rainy season will be available to the plants for a longer period  
**Reduces** leaching of nutrients  
**Enhances** plant growth through continuous availability of water and absorbed nutrients  
**Helps to aerate** the soils by expanding when absorbing water and contracting when releasing water  
Applying hydrated Absorber avails moisture to transplanted plant and **increases** survival rates  
**Degrades naturally** at the rate of 10-15% per year



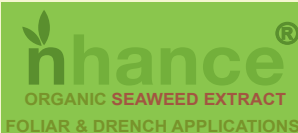
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**Effective** against nematodes, chewing and sucking pests  
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**Does not kill beneficials**  
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**Ideal** for Integrated Pest Management (IPM) programs

## EARTHLEE

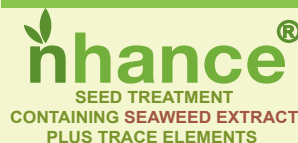
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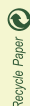
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BANANA new planting		Mix 10 - 20g with soil per planting hole	Nematode : 2L Solution per plant (8ml / 1L water)	Mix 40g with soil per planting hole	Drench seedlings at 5ml / 1L water one day before transplanting. Follow with 2 foliar at 2-3 week intervals 2 weeks after transplanting at 3ml / 1L water
BANANA established		NIL	Nematode : 2L Solution per plant (8ml / 1L water)	Apply 20 - 40g as top dressing	Drench 2L Solution at 5ml / 1L water per plant
CABBAGE		½g per planting hole at transplanting	Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Drench seedlings at 5ml / 1L water before transplanting. Follow with 2 foliar at 2-3 week intervals 2 weeks after transplanting at 3ml / 1L water
CARROTS		NIL	Nematode : Drench 10-14 days after germination at 1ml / 1L water by opening knapsack nozzle Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Foliar at 3ml / 1L water after germination and repeat after 3 weeks
CHILLIES / CAPSICUM		½g per planting hole at transplanting	Nematode : 100ml Solution per plant (1ml / 1L water) Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Drench seedlings at 5ml / 1L water one day before transplanting. Follow with 2 foliar at 2-3 week intervals 2 weeks from transplanting at 3ml / 1L water
COFFEE		Nursery : 1g / 1L soil Field : Mix 10-20g per planting hole	Insects : Foliar 1ml / 1L water	Field: 10g per planting hole Fertilizer coating: 1-2kg per 50kg of fertilizer Mature trees: 10-50g per tree	Newly transplanted : Drench seedlings at 5ml / 1L water one day before transplanting. Follow with 2 foliar at 4 week intervals 4 weeks after transplanting at 3ml / 1L water
FRENCH BEANS		NIL	Nematode : Drench 10-14 days after germination at 1ml / 1L water by opening knapsack nozzle Insects : Foliar 1ml / 1L water	Coat 1kg Earthlee with 50kg granular fertilizer	2 foliar at 2 week interval at 3ml / 1L water starting at trifoliolate stage
FRUIT TREES / FORESTRY - mangoes, avocados		Nursery : 1g / 1L soil Field transplanting : 2-20g per planting hole	Insects : Foliar 1ml / 1L water	Nursery : 1g / 1L soil Field transplanting : 2-20g per planting hole	Drench seedlings at 5ml / 1L water one day before transplanting. Follow with 2 foliar at 4 week intervals 4 weeks after transplanting at 3ml / 1L water
GRASS (LIKE CAPE ROYAL, KIKUYU, MADDI RIVER, ZIMBABWE, ETC) new planting		At time of planting 20-40g / m² soil	NIL	At time of planting 20-40g / m² soil	Dip grass at 5ml / 1L water for 15 minutes before planting. Follow with 3 foliar at 2 week intervals at 3ml / 1L water
GRASS maintenance		NIL	NIL	Coat 1Kg Earthlee with 50Kg granular fertilizer	Foliar at 3ml / 1L water after cutting and when new growth emerges. Spray 6 - 8 times per year
SHRUBS / SMALL PLANTS		Planting : 2 - 10g per planting hole	NIL	Planting : 2 - 10g per planting hole Top dress : 2 - 10g per plant	Drench plants at 5ml / 1L water after transplanting. Follow with 2 foliar at 3 week intervals at 3ml / 1L water. Spray 4 - 6 times per year at 3ml / 1L water
NAPIER GRASS		½g per planting hole at transplanting	NIL	Coat 1Kg Earthlee with 50Kg granular fertilizer	Dip planting material at 5ml / 1L water for 15 minutes before planting. Follow with 2 foliar at 3 week intervals at 3ml / 1L water. After every harvest spray on new shoots at 3ml / 1L water
ONIONS		NIL	Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Drench seedlings at 5ml / 1L water one day before transplanting. Follow with 2 foliar at 2-3 week intervals after transplanting at 3ml / 1L water
PEAS		NIL	Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	3 foliar at 2 week intervals at 3ml / 1L water starting at trifoliolate stage
POTATOES		NIL	Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Dip tubers in 2ml / 1L water for 15 minutes prior to planting. First foliar at 21 days after emergence followed by second foliar after 14 days at 3ml / 1L water. Do not spray after flower initiation
SUGAR CANE		10 - 20 Kilo per Ha. applied in the furrows	NIL	Coat 1Kg Earthlee with 50Kg granular fertilizer	Dip sets in 5ml / 1L water before planting. Repeat foliar at 60cm height at 2L / Ha. For ratoon apply foliar at 60cm height at 2L / Ha.
SUKUMA/ KALE/ SPINACH		½g per planting hole at transplanting	Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Drench seedlings at 5ml / 1L water before transplanting. Follow with 2 foliar at 2-3 week intervals after transplanting at 3ml / 1L water
TEA		Nursery : 1g / 1L of soil Field : 2-5g per planting hole	Insects : Foliar 1ml / 1L water	Field : 2-5g per planting hole Fertilizer coating : 1Kg / 100kg fertilizer to be mixed with top dressing fertilizer	Newly transplanted : Drench seedlings at 5ml / 1L water one day before transplanting. Follow with 3 foliar at 4 week intervals 4 weeks after transplanting at 3ml / 1L water *
TOMATO		½g per planting hole at transplanting	Nematode : 100ml Solution per plant (1ml / 1L water) Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Drench seedlings at 5ml / 1L water before transplanting. Follow with 2 foliar at 2-3 week intervals after transplanting at 3ml / 1L water
WATERMELON		½g per planting hole at transplanting	Nematode : 100ml Solution per plant (1ml / 1L water) Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Drench seedlings at 5ml / 1L water before transplanting. Follow with 2 foliar at 2-3 week intervals after transplanting at 3ml / 1L water
WHEAT MAIZE		NIL	NIL	Coat 1Kg Earthlee with 50Kg granular fertilizer	Foliar at 2ml / 1L of water at 3-5 leaf stage **



3 foliar at 5ml / 20L water at monthly intervals. Commence spray before dry spell.



Mix 100ml / 10kg of seed thoroughly.



# Oserian funded Ndabibi water project ends 50- year conflict

By JOYCE KIMANI

**A**n Oserian Development Company funded borehole water project is promising residents of Ndabibi project access to 20 litres of water for as little as Sh3 while ending over 50 years of water related conflict among the local communities.

Located at the heart of Ndabibi Village, some 200 kilometers from Naivasha town, the borehole, a venture by Oserian Fair trade, has awoken a sleeping village known for farming maize.

Already serving at least 500 people daily and distributing water to more than 30 000 homesteads, the borehole has been a welcome relief to the locals who has traditionally had to travel for over 30 kilometers in search of the precious commodity.

Through their chairman Benson Njihia, the community has constructed a state of the art water trough for their livestock and bought a 10 000 liter water tank to back up the water supply.

"We intend to make the water affordable and available to anyone who needs it. With time we will also purchase pipes after which we can ensure that each household has water

running in their taps," said Njihia

Ndabibi Assistant County Commissioner John Opondo said the clash between residents from the various villages had always emanated from the water crisis.

"Everyone was fighting in the queues, seeking to be the first to fetch water. The push and pull was making it hard to control the crowds who often went for each other's throats as they felt shortchanged. However, this will now stop as water will be free and affordable to everyone," he added.

Already, according to Asef Kariuki, the area chief, domestic violence cases have reduced since the borehole started supplying the area with water.

"We used to have a lot of cases where women were beaten up by their husbands as they took a whole day to go to the well to fetch water. Now the most they take is fifteen minutes, hence they can be able to attend to their daily chores," said Chief Kariuki.

The residents are already feeling the impact of the water availability.

Joyce Wanjiru said previously they could not even drink enough water as they dreaded the walk to the well.

"We even limited the amount that we consumed as a means of preserving it. This however led to a lot of dehydration and we were looking quite old but the availability has enabled us to drink and be refreshed at will," she added.

Wanjiru pointed out that farmers could now engage in small scale farming as a means to boost their earnings.

"Now we can be able to water our vegetables which will in turn end up being sold in the local market. In turn we will now be able to at least buy basic necessities including clothes and food for our children," she added.

Hannah Njambi, another resident said this will boost security in the area.

She pointed out that most of the time, young girls had to go to the wells, making them an easy target to predators.

"Now we are sure that our girls are safe. And they can fetch water early in the day and at the same time go out and play like normal children," she added.

John Meja claims that they can enjoy basic necessities like taking a shower daily.

"I even showered before I came for this event. Earlier on we used to skip the bathing as it meant we had to go and fetch water for a long distance and come back sweaty," he added.

Meja says that they would lose a lot of animals as they fell ill and did not have enough water to accompany their treatment.

Oserian Human Resource Manager Lawrence Tororey praised the project, saying its impact had already started being felt but urged the community to sustain the project.

"The borehole has already changed the lives of many residents and it is up to the community to protect it. It is strictly meant for their own benefit and if well utilized, can be a major source of income if they venture into projects like irrigation," he added.

Tororey said the company has embarked on community projects as a means to give back to the society.

"We have been involved in the education sector by building schools. We have also been building maternity wings for people who cannot access the basic healthcare," he added



# Facelift for Kongoni Primary school



(L-R) Ewa Henrikson and Peter Hagg of ICA and Liisa Myllyla and Kenneth Forsman of KESKO

commemorating the construction of the classroom.

Speaking on behalf of the two institutions, Mr Peter Hagg of ICA said their customers pay a premium and want to see how the money is benefiting communities.

Oserian supports seven schools within its community, a responsibility the farm takes seriously to contribute to developing young minds into responsible citizens. Flower farm is a labour intensive businesses and for continuous supply of the required workforce, the company has identified education as key pillar of 'The Living Story' driven by the Flori4Life (Flowers for Life) mantra.

The others are Flori4Farming, Flori4Nature, and Flori4Water.

"Education breeds innovation", said Mr Mpungu adding Oserian is driven by innovation. "Without Education, research opportunities cease. We cannot do the same thing over and over and expect a different result", he said

**N**aivasha-based Kongoni Primary school has benefited from a classroom worth Ksh 1.5 million from flower buyers Kesco and ICA.

The support was channeled through Oserian Development Company that donated the land on which the public

school is built as part of the farm's Flori4Schools ( Flowers for Schools) pillar.

"Support for education is our contribution to Sustainable Development Goals No 4 – inclusive and equitable life by providing learning opportunities for all', said Kirimi Mpungu when he welcomed officials from Kesco and ICA to unveil the plaque



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Oserian has constructed and furnished two early childhood development centres, two primary schools, a high School for employees and built two community schools.



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# Kenyan Pupil Wins International Flower Sleeve Drawing Competition

**A** class six pupil at Oserian Primary School, Naivasha, has emerged the winner in a global flower sleeve drawing competition.

The 13 year-old Brian Maina shares the prize with a student in Switzerland for a drawing depicting the business chain of flowers under the Fair Trade standard that will be used as a flower sleeves design.

The competition was organized by Swiss Supermarket Coop and attracted more than 700 entries globally. Oserian Primary School entered 17 drawings.

A shy but happy Brian was overwhelmed when Oserian Development Company Director of Administration Kirimi Mpungu made the announcement a week ago at a School parade mounted to break the news to an ecstatic crowd of pupils and staff from the flower farm.

The public primary school is among 14 educational institutions supported by Oserian as part of the giant flower exporter's 'Flori 4 Schools' programme; a brand fashioned from Flowers for Schools.

Brian will be feted in September at a ceremony in Naivasha organized by the Farm and Coop, where the prize details will be given.

The drawing will be used on the flower sleeve that packages Fair Trade Flowers for the Supermarket in the European market from October 2016 with acknowledgement going back to the two winners.

Young Brian's drawing captures the moment and his daily experiences on the Farm. His early understanding of aid through trade shines through in his depiction of the linkage between Flowers and commensurate support to his School. His vivid imagination



**Administration Director Oserian Development Company Kirimi Mpungu, Brian Maina a pupil at Oserian Primary School, Head of Human Resource at Oserian Mary Kinyua, Oserian Primary School Head teacher Ruth King'ori and Gilbert K' Oloo, Deputy Head teacher**

captured flowers, wildlife, trees and hills as he sees them on the expansive flower farm as he walks to school daily. He is aware that the Farm's investment in flowers helps to give him and his fellow students the much needed support for School programmes. Brian's drawing encapsulates the spirit of the Farm's philosophy- Flori 4 for Life, under which 4 pillars have been created in support of Nature, Water, Schools and Farming.

Under the Flori4 Life brand, Oserian strives to depict how flowers create sustainability through pillars which help to eradicate poverty, disease and illiteracy, – Food Security, Water, Education and Conservation and resonate with Global Sustainable Development Goals.

Brian's picturesque illustration centred on the environment, where Oserian's forestry plants 1,000 trees weekly;

an enviable feat; providing seedlings for afforestation and augmentation of scarce wood fuel stocks within communities which are heavily reliant on firewood. Tree seedlings are made available to surrounding communities from the Company nurseries to ensure sustainability. The flora and fauna allow the ecosystem to thrive undisturbed, creating opportunities for tourism and an aesthetically pleasing and healthy setting, linking environment and farming.

Brian loves art and the win has given him the motivation to keep drawing hoping to someday showcase his work on TV, he said. He was inspired by a local TV arts programme and looks forward to participating in it in the near future. He has many sketches to his name, among them that of former President Mwai Kibaki and other leaders.





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# You can manage your caterpillar if you know it

By CONSOLATA MUTUA

**I**t seems that we are not over with Caterpillar management in flowers. Initially we were to deal with one major moth of the Roses the *Helicoverpa armigera* but now, much more are evolving every other time! This makes it even harder to control as differentiation of the moth species is difficult to growers. It is no longer time scouting report required a scout to just fill in 'caterpillar' but now due to different moth species in our greenhouses which need different methods of control growers need to state the moth species at hand. Kenya Biologics has been thus on the front line in developing and availing attractants/pheromone traps in order to help the growers meet this need.

We have been therefore closely working with growers to find out what are the new moth problems in roses. *Duphonychelia* and False codling moth have now been confirmed to be pests of economic importance to rose growers. These pests are not only a concern due to the economic damage they cause but also giving growers sleepless nights due to the fact that they are of concern to phytosanitary bodies and that detection on a shipment will lead to interception hence leading to greater losses. Demand by the market to reduce pesticide use on flowers leaves growers with limited options for moth control too. For effective control of these pests one needs to understand their Identification and behaviour.

## False codling Moth

When chilli growers were battling with the pest which was noted in 2014, little did anyone know it was going to visit the Rose crop. FCM has also been a pest of the Macadamia, Avocado as well as Citrus fruits. It is listed as a notifiable pest.

First when noted in Roses, growers



gave it different names as they were not sure of the Enemy. It is observed to cause damage on the flower bud where the larva enters into the bud leaving behind its frass covering the entry hole on the outside. It then burrows downwards feeding on the inside of the stem misleading the observer to call it "STALK BORER". On the cut points it is noted to enter and burrow inside leaving tiny particles of the stem content pilling on top of the cut point, as such cut point dries up and no new shoots can be realized from such infested points – damaging!! Most challenging thing with FCM in Roses is that the pest pressure does not look high on visual observations as it is not easy for growers to note and estimate the loss due to dead cut points as harvestable stems and new shoots still stand thus one may underestimate the economic loss. This is even worse if one does not know whether the pest is present in the greenhouse. However with a close look after one understands how the pest causes damage and behaves, then you will agree with me it is damaging and that quick action is vital. Monitoring with CRYTRACK from Kenya Biologics is the first step to the effective management of False codling moth.

## Management of False Codling Moth

Due to the fact that the eggs are very small and difficulty to detect by visual inspection of crop, use of monitoring tools is key to early detection of the pest. Moths also are difficult to be noted by scouts as they are nocturnal. Use of CRYTRACK from Kenya Biologics has been helping Chilli growers and fruit growers to make out early detection of FCM as well as use of the tool for Mass trapping of male FCM a strategy that enables growers determine FCM presence and also help manage the pest population by holding captive male FCM through continued mass trapping. Kenya Biologics CRYTRACK for FCM management in chillies has been noted to reduce the pest by over 70%.

Therefore, it is important to note that the key to IPM of the pest is firstly Monitoring with CRYTRACK for early detection then Mass trapping of the male FCM. Foliar applications of insecticides could be done but control may be difficult as it is not easy to kill the larvae once inside the bud or stem.

# Let's Know and Recognise the Enemy (FCM)!



Stem burrowed by FCM



Cut point affected by FCM

## ***Duponchelia fovealis***

This is also another moth whose larvae cause economic damage to the leaves and flowers of ornamental plants, thereby reducing their quality and cosmetic value.

The wing markings (yellowish-white transverse lines and pronounced “finger” that points towards the back edge of the wing and the position adopted by adults at rest (males curve their abdomen upwards) is quite distinctive of this species.

It is important to note that for effective control of these moth pests, early detection is very important. This is so because; it is very difficult to manage moths especially if the population has been allowed to build up over seasons. It is much easier then to ensure you keep moth numbers low from the start than to control a well established population. Kenya Biologics has been in the fore front in providing the growers with necessary tools to be able to manage moth populations.

With our extensive range of monitoring tools, growers are able to detect different moth species early and hence take corrective actions before pest build up. Due to the increased number of moth species in roses, Kenya Biologics has provided the growers with FEMTRACK which targets more than one moth species.

## **What is FEMTRACK?**

FEMTRACK is a complete system for trapping female and male moths. The system consists of the FEMTRACK lure, a delta trap and sticky paper. FEMTRACK will attract different species of moths; *Helicoverpa*, *Spodoptera*, *Duponchelia* and other moths. It is effective and catches moths in the ratio of 70% females and 30% males. This means you catch female you stop egg laying instantly. This reduces caterpillar larvae hence damage on crops significantly.



**Duponchelia fovealis moths on a FEMTRACK trap**



**FEMTRACK trap**

## **Holistic Approach to *Helicoverpa armigera* Management**

Kenya Biologics combination of FEMTRACK and HELITEC is now providing the growers with a holistic approach to the management of *Helicoverpa armigera*. Once you detect *Helicoverpa* in your trap, start using HELITEC as a Prophylactic Preventative spray. Usually caterpillars hatch out of the eggs by first chewing the shell of the egg to make an opening to the outside. If a caterpillar chews an egg shell sprayed with the *Helicoverpa armigera* neucleopolyhedrovirus (HearNPV) hence it dies out of infection before it feeds on the crop. HELITEC and FEMTRACK provides efficient and cost effective control of pest, compatible with other IPM programmes, leaves no MRL and does not build resistance to the pest thus user friendly.



# The Dangerous Duponchelia



The nondescript adult Duponchelia



Ring barking of plants at ground level due to feeding of Duponchelia larvae – this kills plants

By RUTH VAUGHAN

**D**uponchelia fovealis, aka the European Pepper Moth, is an emerging pest in our Kenyan greenhouses. This may be due to the reduced use of harsh chemicals. You can often see the adults as you wander through the greenhouses, when disturbed they fly out of the plants. The adult moth is brown and white and relatively nondescript, being fairly small with a wingspan of under an inch. Most of us ignore them!

The nondescript adult Duponchelia Duponchelia populations are widespread and emerging throughout the World, although some countries still classify them as a quarantine pest, many have discarded their regulatory actions. The list of plant species attacked by Duponchelia is long with more than 70 host species in numerous plant families. The level of economic

damage that they can cause has not yet been quantified.

## Why are they dangerous?

The adult moths lay their eggs on the underside of bottom leaves, and in plant debris. The eggs are single, tiny and difficult to see. The larvae are minute on hatching and grow to a maximum of an inch, they are a creamy white with a black head and spend most their time underground. They feed on soil detritus, bottom leaves, stems, fruits and roots depending on the crop. In roses they feed on the crown of the plant, where the stem goes into the soil. The damage is impossible to see unless you dig. They can effectively ring bark plants at soil level. This creates entry wounds for exploitive diseases, most notorious of these is Agrobacterium. (In addition to this the Duponchelia larvae is very partial to feeding on decaying

Agrobacterium galls.)

The insect-disease complex caused by Duponchelia feeding damage in association with disease spores at its best causes a big reduction in quality and production and at its worst kills plants, costing growers lots of money.

## How to control and monitor Duponchelia

Controlling Duponchelia is cheap and easy compared to the damage they do, and can be completely biological, in addition to reducing thrips and fungus gnats at the same time! It's a win:win.

Monitoring of the adults using Duponchelia pheromones and insect traps can also be used to trap and reduce populations. Remove crop debris and lowers leaves to reduce habitat. Reduce overwatering – they love a moist humid environment. BT's, predatory nematodes (e.g. Steinernema), EPF's (e.g. Beauveria bassiana) are effective as sprays and drenches. Parasitoids (e.g. Trichogramma) and predatory mites (e.g. Hypoaspis). If the worst comes to the worst you can always spray chemicals registered for Lepidoptera, but the larvae are so inaccessible it's best to leave the good bugs to do all the hard work.



Dead rose plant due to a Duponchelia:pythium insect-disease complex in conjunction with very damp soil. Over 30% of the plants died in this greenhouse!

Ruth Vaughan is the Technical Manager, Crop Nutrition Laboratory Services Ltd. [ruth@vaughan@croppnuts.com](mailto:ruth@vaughan@croppnuts.com)



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# Seeking treatment for plants at Farm Clinic



By **NELSON MAINA**

**T**he first in a series of planned Farm Clinics, an joint initiative of Elgon Kenya Limited and Nation Media Group took place at the National Horticulture Research Station in Thika in July.

As early as 7am, the hall was parked with farmers who had come from as far as Narok and Nandi Hills among other regions armed with all sorts of problems requiring urgent and immediate answers.

We single out farmers from far-flung regions because they couldn't wait for the clinic to arrive at the centre near them but instead they chose to travel the long distances to present their case to the experts.

It was a humbling moment seeing farmers coming with soils and diseased plants desperate for answers, their argument being that plant diseases, just like human health issues cannot wait for the doctor to arrive.

It was as heartbreaking hearing lamentations due to lack of immediate responses when they report problems or frustrations of not knowing where to seek for remedy. Complaints about laxity especially among government officials to move fast to help save crops were a legion.

Needless to say we learnt vital lessons from that close interaction with farmers,



**Packed to capacity as farmers seek answers at the Farm Clinic**

and these experiences must inform the way agriculture is mismanaged if Kenya and the world in general expect to tackle food insecurity and alleviate poverty associated with low farm productivity.

This week, reports titled State of East Africa released by SIB paint a grim picture of agriculture productivity that is reported to be declining by the season with no clear timely policies to equip farmers with requisite skills and resources to increase volumes and value.

Over the past five years, Elgon Kenya has endeavored to work individually and in partnerships seeking to embrace growers who are the first interaction with the soil because unless we understand what stops them from realizing full potential, it doesn't matter what else we do.

Not to say anything has been done. Studies, reports, research, recommendations and many other 'academic' solutions are gathering dust in offices while the farmer who needs the information is suffering from lack of the same.

How then can we work together to ensure that factors responsible for declining farm production are arrested on time to avoid losses and the high cost of food?

The answer lies in collaborations. All stakeholders across the productivity value chain needs to put their heads together and map a strategy with clear indicators to help the farmer with the

necessary knowledge and resources he requires to deliver adequate fruits of his sweat.

We have seen and can speak with authority what support and recognition can do. Since we started the National Farmers Awards, the annual scheme that rewards best practices there has been a surging interest in improving farming to win an award. According to the Ministry of Agriculture, the youth category has witnessed the biggest number of entrants for the this year's awards indicating that the scheme is attracting the young people to the farms.

This is a major achievement considering that globally, young people are reported to shun the soil in favour of white collar jobs. It is more encouraging to see university graduates hanging their certificates and folding their sleeves to farm with passion.

It is high time the national government, the county government, development partners and private sector joined hands to work together on a roadmap that sustainably keeps our farms productive. We have created a platform that shows it is doable let's scale it up and put adequate affordable food on our tables and make the farmer rich.

*See pg 46*

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**Nelson Maina is the Communications Manager, Elgon Kenya Ltd**  
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**Flashia Kinyua, County Agriculture CEC Mr Peter Warui, Elgon Kenya Managing Director Bimal Kantaria and Senior Director of Agriculture Dr Jonson Irungu**

# Farmers Awards winning farm becomes centre of excellence

By CATHERINE RIUNGU

**O**ne of the National Farmers Awards winners farm has been developed into a demonstration centre for learning best practices and excellence in agricultural technologies.

Flashia Kinyua, a small-scale farmer in Kirinyaga County was the overall winner, Women in Agriculture Category in the 2014 awards, and her efforts have been paying off since she shook President Uhuru Kenyatta's hands when she received the winning trophy.

The centre of farming excellence was opened on Wednesday August 17, in Kirinyaga County, by Minister for Agriculture Willy Bett and Kirinyaga County Governor Joseph Ndathi, whose speeches were read by senior director of Agriculture Dr Jonson Irungu and

County Agriculture CEC Mr Peter Warui respectively.

The centre is a joint initiative of agrochemical and inputs firm Elgon Kenya Limited, the national government through the Ministry of Agriculture and the Kirinyaga County Government.

Speaking at the ceremony, Elgon Kenya managing director Bimal Kantaria said the centre is the first in a series of such projects lined up for development with the objective of quadrupling farm productivity for food security and income generation among smallholder farmers. The second centre will be launched in Vihiga, Kakamega County.

"To achieve food security, we must support smallholder farmers to make their farms more productive by availing technology and knowledge within reach," he said.

Mr Kantaria urged farmers to avoid fake seeds and agrochemicals but instead take advantage of smaller packs of the commodities that have been designed for affordability and availability.

He added that by developing the model farm, Elgon Kenya was on a 'green revolution' journey, to transform agriculture through ensuring that farmers have access to inputs, products and services within reach and ability. "Counterfeits will destroy you", he advised.

To this end, the firm has developed the 'kadogo' agricultural technologies ranging from the ¼ acre drip irrigation kits, small packs of seeds and 10 kg fertilizers to complete the picture.

Mr Kantaria said Kenya is lucky in that the county is able to access the latest agricultural technologies and innovations supported by a hard working people. The technologies and innovations are available through the multinational firm Elgon is working with among them Du Pont, BASF, Syngenta, Bayer, Excel Chemicals, and Arystal.

At Flashia Kinyua farm, Elgon has set up a one-acre drip irrigation for demonstration where latest seeds will be planted and agronomic practices demonstrated. The kit includes drip lines and a water storage tank.

Mr Warui said that other counties are welcome to learn from Kirinyaga how to practice commercial farming, as the county intensifies construction of dams and expansion of irrigation schemes to increase area under irrigation in the county.

He urged parents to give their children the right to use land for high value crops farming such as horticulture so that the young generation can make money from farming.

Farmers and stakeholders from as far as Meru, Nanyuki, Nyahururu and Nakuru thronged Flashia's farm, while many more trooped from neighbouring counties of Embu, Muranga, Nyeri and Kiambu.

Some carried sick plants hoping to get a diagnosis, and the agronomists didn't disappoint as they were armed with information to help farmers cure crops diseases, pests and nutrition challenges.



The crèche takes care of babies from four months when mothers resume work after maternity leave, up to three years

# Flower farm feted again for supporting breastfeeding at work

**O**serian Development Company has been recognized for the second year in a row for outstanding support to breastfeeding at work.

The Naivasha-based flower farm's crèche has been earmarked as a model of excellence and training centre for establishment of similar facilities as the world marked this year's World Breastfeeding Week under the theme, "Breastfeeding—a key to sustainable development."

"The Oserian Creche has a capacity for 100 babies and is managed by personnel trained in baby care and housed within the farm's dispensary to ensure that emergencies are sorted even before the mother is alerted", said.

The recognition by the Ministry of Health Division of Nutrition and the United Nations Children's Fund (UNICEF) come at a time legislation and

policies advocating for breastfeeding centres at the work place are being drafted.

Oserian has been a front runner in taking care of young mothers at the workplace, having established the crèche over 10 years ago.

While the farm is expansive, sitting on 200,000 acres, new mothers are allocated duties in sections that are near the crèches such as the pack houses and nearby greenhouses to allow them shorter distances to walk to breastfeed. They are allowed an hour for breastfeeding and leave an hour earlier to pick up babies after work. The crèche takes care of babies from four months when mothers resume work after maternity leave, up to three years when the toddlers graduate to the early childhood education.

The crèche has an exclusive breastfeeding room where mothers express milk that is stored in hygienic conditions for continued feeding.

"This has enabled the mothers to concentrate with work without worrying about the babies, creating a productive work force as well as saving them the cost of house helps" added.

The Oserian crèche supports recommendations by the Ministry of Health and the World Health Organization to practice exclusive breastfeeding for six months to tame preventable diseases.

According to the Ministry of Health, if all children were exclusively breastfed for six months, 13 per cent of preventable deaths would not happen.

According to Oserian Administration Director Kirimi Mpungu, the Creche is a pet project of the founders of Oserian, Hans and June Zwager for support of continuity of life, creating a happier workforce and growing future generations under the farm's staff welfare and CSR.



# BAYER Vegetable Seeds, Nunhems, Kenya

**B**ayer Vegetables Seeds Brand, Nunhems, entered Kenya in 2016 with trials of red and white onions. Mata Hari F1 red onion was spot on in launching the brand in Kenya with good adaptability in all growing areas from Ortum in Pokot County, to Kihawara in Nyeri, Meru County and Loitokitok in Kajiado. Mata Hari F1 hybrid red onion yielded over 20t/Acre with a potential yield of up to 30t/acre.

The onion hybrid has high bulb setting almost 100%, with a very attractive skin color that distinguishes it in the market. The bright color enabled farmers to ask for better prices compared to other varieties. While Mata Hari was our first

born, Rasta F1 also a red onion hybrid was came in with very good results in Isiolo, Chaka, Thika and Mt. Elgon regions in the country. This variety has deep red skin color that permeates into the core of the flesh. It is a high yielder, with good standing even in cool weather conditions.

From mid-January 2016, farmers have not stopped asking for Rasta and Mata Hari Hybrid from Bayer East Africa, because it positions the farmer well before onion bulb buyers. What the farmer gets from Bayer vegetable seeds varieties is uniform maturity, good marketable bulb sizes with moderate pungency and attractive red color that is delicious for cooking.

On top of good varieties, is the compelling customer service that accompanies the seeds. Bayer staff across the country has been able to walk with the farmers from guiding variety choice, nursery preparation, pest and disease control, to organizing exchange farmer visits and regular follow up and linkages with important partners in the industry.

We have two new varieties of red onions we recently introduced in the market. If one asks how we bring these varieties in the market, we simply ask the opinion of small scale and professional farmers. When we tested Lambada F1, our third red onion variety with farmers in Loitokitok, Ortum, Mweiga and Thika, they wanted it like Yesterday. Lambada F1 tolerates most leaf and root disease and responds very well to feeding with yields from 23t/Acre and above. This variety rewards the farmer with medium bulb sizes, regular round shape and a sure red color that fits Kenyan Market needs.

Our Farmers in Ngarindare(spelling) in Laikipia and those in Wambugu, Nyeri and Eldoret settled on Islero F1. One farmer in Rumuruti, was perplexed at

how this variety was able to give perfect bulbs under very harsh condition. The responses from our farmers made us to introduce Islero F1 to the Kenyan market. This variety and Lambada F1 can now be accessed from your nearby agro shop. All the 4 varieties can be stored for more than 4 months under our Kenyan conditions.

The most important thing for onion farmers is the nutrient content if his/her soil. We recommend farmers to carry out soil tests of their farms in order to know the health status of their soils. Onions require good organic matter, good aeration, and a proper balance of nutrients that can be achieved through fertilizer application. Thrips are the main enemy of onions and we recommend farmers to drench their soil just after transplanting of seedlings with confidor insecticide. "Prevention is better than cure" also applies to onion farming as this reduces the percentage losses of yield due to insect pests.

In order to reap the best, Kenyan onion farmer should time their crop to coincide with good prices. Those farmers who harvested onion in May, June and early July 2016, get the best prices in recent years.

Bayer has a basket of other vegetable seeds including Pizzadoro F1, Tinto F1 and Rebecca F1 tomatoes, Aastha F1 water melon and, Rio Bravo F1 white onion, very popular in Kinungi and Maraigushu areas. We keep on with our trials so be on the look-out for more from Bayer. Nunhems brand.

**On top of good varieties, is the compelling customer service that accompanies the seeds. Bayer staff across the country has been able to walk with the farmers from guiding variety choice, nursery preparation, pest and disease control, to organizing exchange farmer visits and regular follow up and linkages with important partners in the industry**

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**By Edwin Kibiwot Kiptarus**  
**Vegetable sales representative, Kenya**  
**+254715407361**

# Onion production tips

## Seedbed preparation:

Onions are first raised in the nursery bed after which they are transplanted to the farm. At the nursery, raised beds of a maximum 1 metre wide are prepared and well decomposed manure incorporated. Holes of about 8cm apart are made and the seed are sowed and covered slightly with the soil and mulch. For the first 10 days, watering should be done abundantly and after the seeds emerge the mulch should be removed. Transplanting in the field should be done at a spacing of 8cm by 30 cm. At the nursery the seedlings take 4-5 weeks.

## Fertilizer applications:

At planting NPK- 23.23.0 or TSP at rate of 50kg/acre can be used. One month after transplanting, top dressing should be done with NPK at a rate of 50 Kg per acre. Too much nitrogen may however cause the plants to remain in the vegetative phase for a little longer and may lead to development of thick neck.

## Irrigation:

Irrigation is crucial during the vegetative growth phase and water stress at this stage may compromise the yields. Excess soil moisture should be avoided as it may lead to onion bulbs that are soft with poor shelf life.

## Weed Management:

Weeds can be controlled successfully through use of registered pre-or post emergence herbicides. Mechanical weeding can also be employed though this may be expensive.

## Pest and Diseases:

Common onion pests include thrips, whiteflies and aphids. Of these, Thrips are the most destructive pests especially during the dry period, they cause reduction in quality and quantity of produce. Early sprays with registered products can however manage these pests. On the other hand, Downey mildew and purple blotch are the most common onion diseases.

These two diseases can be controlled through cultural practices such as use of resistant cultivars and chemical sprays.


## Harvesting:


Depending on the variety, onions are ready for harvesting after 3-4 months after transplanting. At this juncture, the leaves start to yellow and wither, necks become twisted and the outer skin turns papery signifying that the onions are ready for harvesting. When harvesting, onions should be handled with care to prevent bruising and cracking.




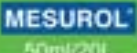


## Curing Onions:

Curing is the process of allowing the leaves to naturally dry up. This helps in prolonging the onions shelf-life. This process starts in the field and continues after harvesting whereby they should be placed in a well ventilated and shaded area.

## Rio Bravo F1





VARIETY CHARACTERISTICS		PROBLEM	SPRAY PROGRAM		
Colour	Golden whitish			THRIPS	DOWNY MILDEW
Maturity	80-85 days				
Shape	Round regular shape				
Yield	15-20t/Acre		50ml/20L	40ml/20L	40ml/20L
Adaptability	Suited to medium to highland zones	CONTROL			

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CropScience Division, Thika/Outer Ring Road, Ruaraka | P.O.Box 30321 00100 GPO Nairobi, Kenya. Tel: (+254-20) 8600000 | E-mail: info.ke@bayer.com/ bcs.ke@bayer.com

# Bulb onions in high demand

Domestic demand for bulb onion in Kenya outstrips supply resulting to imports from India, Egypt and Tanzania.

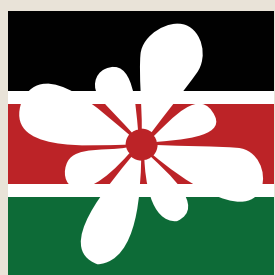
According to Agriculture and Food Authority, 3,548 Ha was planted with bulb onion realizing a production of 57,773 MT valued at KES 2,182 million in 2014. While the area and output declined by 8 and 5 percent, respectively, the value of production increased marginally. The major bulb onion producing county was Bungoma which accounted for 47 percent of total production. The potential for increasing productivity depend on expanding area under irrigable agriculture and adopting appropriate pre and post harvest handling practices to reduce post harvest losses.

## Gross margin analysis

ITEM	DESCRIPTION	UNITS	QUANTITY	COST/UNIT	TOTAL KSh.
Land lease	One season	acre		4,000.00	4,000.00
Land preparation	Initial ploughing	acre		4,000.00	4,000.00
	Harrowing	acre		3,000.00	3,000.00
	Sub - total				11,000.00
Cost of seed	Red Nice F1	342g	3	6,000.00	18,000.00
Crop nutrition	Manure	Tonnes	6	1,500.00	9,000.00
	Planting- NPK- 23:23:0	50kg	2	3,300.00	6,600.00
	Top dressing- NPK - 17:17:17	50kg	2	2,500.00	5,000.00
	Foliar fertilizer	litres	5	600.00	3,000.00
	Sub - total				23,600.00
Crop protection (use registered products)	Diseases management- downey & powdery mildew and purple blotch (6-10 sprays/season)				30,000.00
	Pest management - aphids, white flies & thrips				40,000.00
	Sub-total				70,000.00
Irrigation costs**					35,000.00
Labour	Nursery establishment/managem ent	Manday	30	200.00	6,000.00
	Transplanting	Manday	50	200.00	10,000.00
	Weeding- manual/selective herbicide				20,000.00
	Harvesting, grading and packaging	Manday	35	300.00	10,500.00
	Sub-total				46,500.00
	Total input cost				204,100.00
	Out put	Kg	22,000.00	40.00	880,000.00
	Gross margin/profit				675,900.00

\*\* Cost may vary depending on the irrigation method used, soil type and the frequency





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# Onion growing counties in Kenya

## Onion growing counties in Kenya

- |               |               |
|---------------|---------------|
| 1. Kiambu     | 15. Isiolo    |
| 2. Nyeri      | 16. Kericho   |
| 3. Embu       | 17. Kilifi    |
| 4. Nyandarua  | 18. Kirinyaga |
| 5. Kajiado    | 19. Kitui     |
| 6. Bungoma    | 20. Kwale     |
| 7. Meru       | 21. Laikipia  |
| 8. Elgeyo     | 22. Lamu      |
| Marakwet      | 23. Machakos  |
| 9. Bomet      | 24. Mandera   |
| 10. Meru      | 25. Meru      |
| 11. TaitaTvet | 26. Murang'a  |
| 12. Baringo   | 27. Nairobi   |
| 13. Garissa   | 28. Nakuru    |
| 14. Homa Bay  |               |

## Onion varieties in Kenya

Jambar F1	Seminis/Monsanto
Mercedes	Monsanto
Neptune F1	Amiran
Roque F1	Amiran
Red Passion	Simlaw
Pinoy F1	Kenya Highlands Seeds
Bombay Red	Simlaw
Red Creole	Amiran
Texas	Kenya Highland Seeds
Rio Bravo F1	Bayer East Africa
Red Wave	Hygrotech
Redsimba	Hygrotech



## Best harvesting period

Onions fetch good prices between October and January when the local market highly depends on imports from Tanzania. The peak harvesting season, which is characterised by glut and low prices for major local producing areas such as Taveta and Loitoktok is February. You should therefore plan your production avoiding this time of the year. It is advisable to focus on harvesting when the prices are good; compared to storing of onions in anticipation of better prices as this reduces your profit margin due to costs associated with storage.

There are two major ways of preparing onions to improve on the storage quality. First, there is a process known as curing. Curing involves bending the “necks” once they have attained maturity. The onions with bent “necks” should be left in the field for a period of 7 - 10 days before harvesting. This allows a compound known as melaic hydrazine to flow from the leaves into the bulb to prevent sprouting during storage. Secondly, you can spray just before harvesting (up to 10 days) with some anti-sprouting agents that prolong shelf-life.

Despite curing and spraying the onions with anti-sprouting agent, onions should be stored in a well aerated place to avoid rotting and sprouting. To achieve this, special structures are designed for storage of onions.

### A word of caution

Cultivation of onion is labor intensive and expensive. It is therefore recommended that beginners start with small parcels of land and progress with experience as onions are prone to a number of pests and diseases



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# The onion variety causing a wave in East Africa



**G**rowing preference for produce that do well in majority of altitudes while taking less time in the farms has made Red Wave Onion variety an instant hit among farmers in Kenya and Tanzania as markets express insatiable appetite.

The hybrid variety that takes 75 days to mature instead of the conventional 90, is distributed by leading horticultural seeds distributor Hygrotech East Africa Limited.

The medium sized red variety grows uniformly from one harvest to another addressing a major market concern; that of having bulbs that are irregular in size across different harvest seasons.

“We introduced this variety after taking time to understand what the markets really wanted. Onions are a very important crop in the country, but it has been marred by growing concerns including poor varieties that don’t translate to meaningful

yields and take time to mature. People value time so that was one of our considerations. By minimizing growing time by 15 days it means farmers can manage to harvest early and beat market glut,” said Joseph Njenga the sales representative at Hygrotech East Africa.

Red Wave has positioned itself as a superior variety, weathering the most notorious pests and diseases including purple blotch, Downey Mildew and Botrytis. It has a wide range of adaptability and does well in almost all altitudes in Kenya. Farmers have reported yields of up to 20 tonnes per acre with the variety that has a shelf life of up to five months. While most onion varieties cannot tell when they have fully matured and continues to grow to an extend of flowering after maturity, Red Wave has a demonstrated natural curing which allows the bending of its ‘neck’ once it is matured. This prevents any flowering that might affect quality

of the final crop.

In Oloitokitok, Mt Kenya area and Nyeri farmers are having a field day with Red Wave as demand burgeons. “One of the attributes that is attracting customers to Red Wave, is its good internal colour development meaning it has a red deep peel. So one can peel it to its core and still find the deep red colour. Customers and chefs have always expressed this desire,” Joseph added.

The variety is also making successful inroads in Tanzania, a region that has traditionally relied on seeds from previous varieties which has had an impact on quality of the end product.

And to further satiate market demand Hygrotech East Africa also distributes RedSimba F1 variety, an improved version of Bombay Red variety. RedSimba F1 which is suitable for direct sowing, set and planting, does well in Coastal and lower attitude areas of Ukambani, Pokot and in areas where people typically grow the Bombay Red Variety. It is ready for harvest after three months, matures after three months and produces up to 15 tonnes per acre. It can stay for up to five months and is ideal for fresh markets as well as processing.

“Our aim at Hygrotech East Africa is to ensure that we follow market trends in coming up with varieties and innovations that address the market dynamics. By this we are also talking about changing times including weather patterns that might interfere with farmers produce. Our onion varieties are testament to our commitment to farmers in the region to embrace quality above everything else if we are to address the food security question in our region,” said Joseph.

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## RED WAVE



- **Short day, hybrid red bulbing onion** / Kitunguu mseto chekundu cha hali ya juu
- **Perfect round uniform bulbs** / Vitunguu Vyote vina umbo na ukubwa unao toshana
- **No bolting** / hakioti maua
- **Red coloured to the core** / chekundu juu na ndani
- **Good storage potential** / Kinahifadhika vizuri ghalani bila kupoteza ubora wake
- **Exceptional yield potential** / Kina uwezo wa wingi wa mazao
- **Highly resistant to diseases** / Kina uwezo mkubwa wa Medium to large bulbs / Vitunguu ni vikubwa
- **Early maturing** / ukomavu wa mapema
- **Widely adapted** / chaweza kupandwa eneo zote

## RedSimba

- **Short day, hybrid red onion**/Kitunguu chekundu cha hali ya juu
- **Uniform shape and sized bulbs**/Vitunguu Vyote vina umbo na ukubwa unao toshana
- **Medium to large bulbs**/ Vitunguu ni vikubwa
- **Very firm bulb with good internal colour development**/ Hakibondeki na kinarangi Nzuri hadi ndani
- **Good storage potential**/ Kinahifadhika vizuri ghalani bila kupoteza ubora wake
- **Exceptional yield potential**/ Kina uwezo wa wingi wa mazao
- **Highly resistant to diseases**/ Kina uwezo mkubwa wa kustahimili magonjwa.



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# Elgon Kenya launches plant clinics to quest farmers thirst for information

By BOB KOIGI

**L**eading agro input company Elgon Kenya Limited in partnership with Nation Media's Seeds of gold, Kenya Agricultural and Livestock Research Organization, Egerton University and the county governments have launched plant clinics to stem pests and diseases spread in a country where up to 40 per cent of crop yields are lost to such menaces.

Modeled along the human health services, the clinics involve plant doctors, usually agronomists who diagnose the diseases or pests affecting plant samples that farmers bring to the clinics.

The maiden plant clinic was held at the KARLRO horticultural research institute in Kandara and brought together farmers from as far as Nandi Hills and Narok keen on getting expert opinion on pests and diseases ravaging their farms.

Peter Mwaura one such farmer growing vegetables and maize in his three acre farm in Gatanga area of Murang'a county had visited the clinic with a soil sample wrapped in a yellow plastic pot. He had come to inquire about soil testing.

"I have always wanted to do the soil test on my farm but I don't where to take the samples, therefore when I had about the farming clinic a sampled some soils and carried them with me," Mwaura said.

Raymond Sawe another farmer from Nandi Hills in Uasin Gishu who has had an unsuccessful stint with tomato farming that have been attacked by powdery mildew had also attended the clinics to understand what he has been doing wrong. Although he had switched to chilli farming, he still had interest in farming tomatoes.



**Elgon Kenya Managing Director Bimal Kantaria addressing farmers at the Farm Clinic**

The event was graced by the Murang'a county CEC in the Ministry of Agriculture Albert Mwaniki who hailed the plant clinics as timely at a time when growing demand for food is putting a strain on farmers.

The interactive sessions that lasted the whole day also saw farmers receive free advice on superior onions, maize, tomato and potato varieties in the wake of changing weather patterns.

Testament to farmers growing thirst for information, the venue of the clinics had been packed to capacity, with farmers who came later having to sit outside.

Bimal Kantaria, Elgon Kenya's director exemplified the pivotal role plant clinics sought to address.

"While here farmers are able to address their technical problems to technical experts. This has been quite different from the usual farmers' day where agro-dealers just to sell things and to explain

things very quickly," Bimal pointed out, adding the event will take place after every two months and will go to different counties.

The plant clinics are timely, coming at a time when the government has scaled down on the extension officers, that farmers relied on for information and guidance. It is estimated that currently one extension officer serves approximately 5,000 farmers. Crop production has also become complex with changes in weather affecting planting and harvesting seasons and bringing with it new pests and diseases.

And as Kenya's population burgeons, putting pressure on food production even as 22 per cent of the country's population remains food insecure, the plant clinics are positioning themselves as a panacea to the country's episodic hunger.





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# When, how to harvest for minimal loss in fruits and vegetables



**Growers need to know the requirements of target markets at harvest and take the necessary actions to meet them. Wrong maturity and rough handling during harvesting account for a great percentage of postharvest losses. When and how to harvest determine postharvest outcomes, reports DR JANE AMBUKO**

Harvesting has a direct effect on the quality and shelf-life of produce.

Harvest maturity is mostly dependent on the target market or use. There are indicators known as “maturity” or “harvest indices” that tell a crop is ready for harvesting. These indicators include size, colour, glossiness and appearance (e.g. shoulder elevation in mango and roundness in banana). Maturity indicators include firmness and smell. In some commodities, the number of days after planting, transplanting or flowering is used to predict harvest time. It is important to have reliable maturity indices to guide harvesting at the correct stage for the target market.

Maturity affects shelf-life and quality: Quality is maximized when the commodity is harvested more mature or

ripe, whereas shelf and storage life are extended if the product is harvested less mature or unripe.

Premature produce is prone to mechanical damage, shrivelling, and inferior eating qualities. Overmature products have a short shelf-life and are often mealy with unpleasant taste. In both cases, produce may be rejected leading to high postharvest losses.

In a product like the mango, there are various maturity stages, such as mature green, for different markets. Growers use shoulder elevation, receding “nose”, and skin appearance to tell when to harvest. The flesh of a mango at mature green stage is mostly white but has started yellowing near the seed. Fruits harvested at this stage can ripen to acceptable quality and are often destined for export or far flung markets. Mango fruits harvested earlier than the mature green stage never ripen to acceptable eating quality.

The question of when to harvest also points to the time of day when the harvesting is done. Cooler times of the day – early in the morning or late in the evening – are preferable. Harvests during the hot periods of the day often carry

a heavy heat load, which contributes to fast deterioration after harvest. This heat load has to be removed if the products are to be put in a cold store or refrigerated tracks, translating into high energy consumption at the initial stages of storage.

Harvesting practices should cause as little mechanical damage to produce as possible. Produce should be carefully removed from the tree and arranged in the harvesting bins to avoid injury. In harvesting from tall trees, hurling of the fruits to the ground should be avoided. When harvesting from the tree, use a knife or harvesting scissors.

It is recommended that harvesters trim nails before harvesting to avoid pricking produce. In the extra delicate products, harvesters must wear cotton gloves and remove jewelry. Harvesting containers should be smooth-surfaced to avoid mechanical damage.

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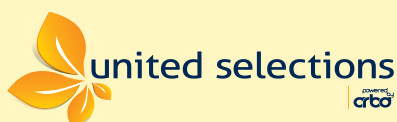
# Flower Growers and Exporters

## BREEDERS AND PROPAGATORS

NO.	COMPANY	LOCATION	CONTACT PERSON	PRODUCT	TELEPHONE	E-MAIL ADDRESS
1.	Interplant	Naivasha	Mr.Geoffrey Kanyari	Breeders	254 712215419	info@interplantea.co.ke
2.	Meiland International	France Meikata	Mr. Bruno Etavard		33-4-94500320	relationsbupliques@meiland.com
3.	Olij Kenya Breeding	Naivasha	Miss. Sally Nicholas	Gares	254 735338062	s.nicholas@olijrozen.nl
4.	Olij Breeding BV	Naivasha	Mr Philippe Veys	Red Paris	31629521612	p.veys@olijrozen.nl www.olijrozen.nl
5.	Preesman Kenya	Nairobi	Mr.Jelle Posthumus	Roses	254 203566135	preesman@preesman.com
6.	Schreurs EA Ltd	Naivasha Roses	Mr.Haiko Backer		2545050203	sales@schreurskenya.com
7.	Stokman Rozen Kenya Ltd.	Naivasha	Mrs.Sarah Tham	Carnation	254720603994	sarah@srk.co.ke
8.	Terra Nigra Flower Park		Mr.Peter Van der Meer	Rose	254 722926588	petervandermeer@terrannigra.com
9.	Van Kleef	Naivasha	Ms. Judith Zuudier	Roses	254 05050327	roses@vankleef.nl

## GROWERS/EXPORTERS

NO.	COMPANY	LOCATION	CONTACT PERSON	PRODUCT	TELEPHONE	E-MAIL ADDRESS
1	AAA roses	Rumuru	Mr.George Hopf	Roses	254-733746737	george@aaagrowers.co.ke
2	Africalla	Limuru	Mr.Robert Holtrop	Zantedeschia	254-721837968	rob@sande.co.ke
3	Aquila Flowers	Naivasha	Mr.Yogesh	Roses	254-722200613	info@aquilaflowers.com
4	Beauty line	Naivasha	Mr. Munene	Gypsophila,solidago	254-721372906	beauty@beautyli.com
5	Baraka flowers	Ngurika	Mr. Douglas	Roses	254-727038432	
6	Bigot Flowers	Naivasha	Mr. Jagtap K.	Roses	254-722205271	jagtap.kt@bigotflowers.co.ke
7	Batian flowers	Timau	Mr.A Borlage	Roses	254-711717987	andre@batianflowers.co.ke
8	Black petals Ltd	Limuru	Mr. N Junder	Roses	254-722848560	nj@blackpetals.co.ke
9	Buds&blossoms-bliss flora		Mr.sarchil A	Roses	254-720804784	appachu7@yahoo.com
10	Branan&Mosi Ltd	Nairobi	Mr. A Wahome		254-722204911	mwaiwahome@mosiflowers.co.ke
11	Bilashaka Flowers Ltd	Naivasha	Sales Manager	Roses	07-28995279	hrm.bilashaka@zuurbier.com
12	Caly flora Ltd	Nairobi	Ms.Catherine G	Cut Flowers	254-722722086	
13	Creative Roses Ltd	Nairobi	Mr. Bas Smit		254-733501640	info@creative-roses.com
14	Carzan Flowers	Kipiripiri	Mr.Kiarie Gitau	Summer Flowers	254-722931159	
15	Credible Blossoms	Nairobi	Mr.George	Roses	254-725762099	
16	Colour crops	Timau	Mr. Simon Baker	Summer Flowers		simon@siluba.co.ke
17	Colour vision roses Ltd	Naivasha	Mr. Peter vandemeer	Rose Breeders	254-05050310	peterverndermeer@terrannigra.com
18	Celinico Flowers	Limuru	Mr.Chris Shaw	Roses	254-06672170	celinico@nbinet.co.ke
19	Charm Flowers	Kitengela	Mr. Ashok Patel	Roses	254-0202222433	info@charmflowers.co.ke
20	Carnation Plants Ltd	Athi River	Mr. E. Fieldman	Carnations	020 - 2045162	evi@exoticfields.com
21	Desire Flora	Isinya	Rajat Chaohan	Roses	254-736329980	info@desireflora.com
22	De Ruiters	Naivasha	Mr.Sebasten Alix	Roses	254-720601600	info@drea.co.ke
23	Doralco Kenya Ltd		Mrs. C. Chenet		020-7122179	info@doralco.co.ke
24	Elbur flora	Elburgon	Mr.Peter K	Roses	254-724722039	eflora@africaonline.co.ke
25	Enkasiti flowers	Thika	Mr.Thambe	Roses	254-724722039	enkasiti@form-net.com
26	Equinox Horticulture Ltd	Timau	Mr. John Mwangi	Roses	254-722312577	john@equinoxflowers.com
27	Everflora Ltd	Juja	Mr. Khilan Patel	Roses	067-5854043	khilan@dmblgroup.com,
28	Interplant Roses	Naivasha	Mr. Geoffrey Kanyari	Breeders	254-712215419	info@interplantea.co.ke
29	Isinya Flowers	Isinya	Marketing Manager	Roses	07-28689000	info@isinyaroses.com
30	James Finlays	Kericho	Mr. John Magara	Roses	254-722206627	flower@finlay.co.ke
31	Jatflora Gilgil		Mr. James Oketch	Summer Flowers	254-724418541	jatflora@gmail.com
32	Greystones farm		Mr. Silus Mbaabu		254-722312316	mbaabu@greystones.co.ke
33	Groove	Naivasha	Mr. Peter	Roses	254-724448601	groovekenya@gmail.com
34	Golden tulip	Olkalau	Umesh		254-739729658	
35	Gatoka Ltd	Thika	Mr. Martin Gacheru	Roses	020 - 20110254	gatoka@swiftkenya.com
36	Harvest k Ltd	Athi River	Mr. Farai Madziva	Roses	254-722849329 f	arai@harvestflowers.com



# Flower Growers and Exporters

NO.	COMPANY	LOCATION	CONTACT PERSON	PRODUCT	TELEPHONE	E-MAIL ADDRESS
37	Hatabor Rainbow Blooms	Limuru	Mr. John Ndung'u		254-7213850959	
38	Hamwe Ltd	Naivasha	Mr. Andrew K	Hypericum	254-722431170	production@hamwe.co.ke
39	Highlands Plants	Olkalau	Mr. Leonard K	Outdoors	254-721345829	sales@highlandplants.co.ke
40	K-Net Flowers Ltd		Mr. Mike King'ori		020-3875662/3	info@k-netflowers.com
41	Kisima flowers	Timau	Mr. Kenneth	Roses	254-722475758	flowers@kisima.co.ke
42	Kenflora	Kiambu	Mr. Aleem Abdul	Roses	254-722311468	info@kenflora.co.ke
43	Kimman Roses Ltd	Nairobi	Mr. Daniel Moge	Catch,Versilia	254-721734104	kimmanexp@gmail.com
44	Karuturi flowers	Naivasha	MR. Silvester Saruni	Roses	254-722873560	henry.muller@karuturi.com
45	Kreative Roses Ltd	Naivasha	Director	Roses	254-20-202627422	info@kreative-roses.com
46	Kariki Limited	Juja	Andrew Fernades	Hypericums	07-22844568	andrew.fernandes@bondet.co.ke
47	Karen Roses Ltd	Nairobi	Mrs. R. Kotut	Roses	020- 2078270	karen@karenroses.com
48	Fides Kenya Ltd	Embu	Mr. F. Mwangi	Roses	020 - 3570182	info@fideskenya.com
49	Finlay-Tarakwet	Kericho	Mr. John Magara	Roses	254-722873539	john.magara@finlays.net
50	Finlay-cherimel	Kericho	Mr. Aggrey simiyu	Roses	254-722601639	aggrey.simiyu@finlays.co.ke
51	Finlay-Flamingo	Naivasha	Mr. Peter Mwangi	Roses	254-22687706	peter.mwangi@finlays.net
52	Finlay-Kingfisher	Naivasha	Mr. Charles Njuki	Roses	254-724391288	charles.njuki@finlays.net
53	Finlay-Lemotit	Londian	Mr. Richard siele	Carnations	254-721486313	richard.siele@finlays.net
54	finlay-siraj	Timau	Mr. Paul Salim	Carnations	254-722470717	paul.salim@finlays.net
55	Finlays-sirimon	Timau	Ms. Purity Thigira	Lilies 2	54-733606411	purity.thigira@finlays.net
56	Fides Kenya Ltd	Embu	Mr. Francis Mwangi	Roses	254-06830776	info@fideskenya.com
57	Flamingo Flora	Nairobi	Mr. Sam		254-721993857	s.ivor@flamingoflora.co.ke
58	Flora Delight	Limuru	Mr. Hosea Andanyi	Summer Flowers	254-724373532	hosndai@yahoo.com
59	Flora Ola	Solai	Mr. Wafula		254-708382972	floraolaltd@gmail.com
60	Florensis Hamer	Naivasha	Mr. Edyy Verbeek	Cuttings	254-02050010	florensis@florensis.co.ke
61	Fontana-Akina	Nakuru	Mr. Alfhan	Roses	254-722728441	Alfhan@fontana.co.ke
63	Fontana LTD	Salgaa Salgaa	Mr. Kimani	Roses	254-734333313	production@fontana.co.ke
63	Fontana Ayiapa	Nakuru	Mr. Gideon Maina	Roses	254-721178974	gideon@fontana.co.ke
64	Florema(K)Ltd	Naivasha	Mr. Perter Maina	Begonia	254-050-2021075	info@floremakenya.co.ke
65	Flower Connection Ltd		Arun Mushra		254-710625484	arun@eaga.co.ke
66	Fontana Ltd		Mr. A. C. Achaiah	Roses	051 - 343156	kakul@fontana.co.ke
67	Longonot Horticulture	Naivasha	Mr. Shando Rai	Roses	254-05050173	longonot@vegpro-group.com
68	Lakshmi Group Ltd	Nairobi	Mr. Micheal Povarov		254-717291197	micheal.lakshmigroup@gmail.com
69	Larmona	Naivasha	Mr. Peter Mureithi	Roses	254-722238474	lamonaaccounts@africaonline.co.ke
70	Lobelia Farm	Timau	Mr. Peter Viljoen	Roses	254-06241060	info@lobelia.co.ke
71	Lex+RoseCreators	Naivasha	Mr. Steve Outram	Roses	254-733609863	steve@lex-ea.com
72	Lauren International Flowers Ltd		Mr. Joseph Tawk		020 - 2358119	laurenflowers@accesskenya.co.ke
73	Maridadi Flowers Ltd	Naivasha	Jack Kneppers MD	Roses	07-33333289	jack@maridadiflowers.com
74	Mosi Ltd	Thika	Ms. Alis Murugi	Roses	254-722204911	alicemurugi@mosiflowers.co.ke
75	Mahee Flowers Ltd	Olkalau	M. vijay Kumar	Roses	254-020822025	info@eaga.co.ke
76	Magana Flowers (K) Ltd	Kiambu	Mr. P.Mwangi	Roses	020-2017651-3	pmwangi@maganaflores.com,
77	Mau Agritech	Isinya	Mr. Kori	Roses	254-722206318	gm@mauaagritech.com
78	Maasai flowers	Kitengela	Mr. Wilfred Munyao	Roses	254-725848912	wmunyao@sianroses.com
79	Mweiga Blooms Ltd	Mweiga	Marketing Manager	Roses	07-33741203	info@mweigablooms.com
80	Mount Elgon Orchards Ltd.	Kitale	Bob Andersen	Roses	07-35330592	info@mtelgon.com
81	Mahee Flowers Ltd	Olkalau	Mr. T. Srinivasan	Roses	020 - 827488	peeush@eaga.co.ke
82	New Hollands Flowers	Olkalau	Mr. Guna Chitran	Roses	254-700718570	guna@bth.co.ke
83	Ngong' Roses	Ngong	Mr. Charles Maina		254-0202700660	maina@aricanonline.co.ke
84	Nirp EA Ltd	Naivasha	Mr. Ethan Chege	Rose Breeders	254-203563141	n/a
85	Nini farm	Naivasha	Mr. Philip K	Roses	254-05050406	philipk@niniitd.com
86	Nathe Enterprises		Marketing Manager		254-722526959	www.natheenterprises.co.ke



# Flower Growers and Exporters

	COMPANY	LOCATION	CONTACT PERSON	PRODUCT	TELEPHONE	E-MAIL ADDRESS
87	Nature Grown Flowers Ltd		Mr. W. Kamami		020 - 2152176,	naturegrown@mbambu.com
88	Omang Africa Blooms	Nakuru	Mr. Inder/Mr. Ketan	Roses		lowers@flora.co.ke
89	Ol Njorowa Ltd	Naivasha	Mr. David Mousley	Roses	254-722833122	mbegufarm@iconnect.co.ke
90	Olij Rozen	Naivasha	Ms. Sally Nicholas		254-735338062	sales@olijkenya.com
91	Oserian Dev. Co. Ltd	Naivasha	Sales Manager	Roses	07-27534550	info@oserial.com
92	PJ flora	Isinya	Mr. Absalom O	Roses	254-721423730	pjdaveflowers@wananchi.com
93	PJ Dave Flowers Ltd	Isinya	Mr. Hitesh Dave	Roses	254-04521381	pjdaveflowers@wananchi.com
94	Panda flowers Ltd	Naivasha	Mr. Paul Wanderi	Roses	254-5050046	wanderi@pandaflowers.co.ke
95	Primarosa flowers Ltd	Athi River	Mr. Dilip Barge	Roses	254-733618354	dilip@primarosaflores.com
96	Penta Flowers Ltd	Thika	Mr. Tom Ochieng'	Roses	254-733625297	penta@kenyaweb.com
97	Protea farm	Timau	Mr. Philip	Roses		info@lobelia.co.ke
98	Plantations Plants	Naivasha	Mr. William Mumanyi	Geraniums	254-723622456	pplants@kenyaweb.com
99	Porini farm	Keringet	Pitamber Ghahre	Roses	254-726774955	porine:isinyaroses.com
100	Pollen Synjenta Ltd	Ruiru	Mr. Daniel Kisavi		254-733603530	Daniel.kisavi@syngenta.com
101	P.P flora	Rongai	Robert Rukingi		254-1890087	ppflora02@gmail.com
102	Primarosa flowers Ltd	Athi River	Mr. Dilip Barge	Roses	254-733618354	dilip@primarosaflores.com
103	Primarosa zuri Flowers	Nyahururu	Mr. Vijav	Roses	254-721823675	vj@zuri.co.ke
104	Preesman Kenya	Nakuru	Michael Kikwai	Roses	254-720574011	kikwai1980@yahoo.com
105	Panocal International Ltd	Kitale	Dr. P. Wekesa	Roses	054-30916/31655	pwekesa@africaonline.co.ke,
106	Red Lands Roses Ltd	Ruiru	Spindler	Roses	P.O. Box 10-01000	aldric@redlandsroses.co.ke
107	Raceme Naivasha		Mr. Bonny	Gypsophilla/vegs	254-721938109	bonny@kenyaweb.com
108	Ravine Roses Ltd	Eldama Ravine	Mr. Kennedy		254-720339985	kapkolia@karenroses.com
109	Rift Valley Roses	Naivasha	Mr. Peterson Muchiri	Roses	254-721216026	rvr@livewire.co.ke
110	Riverdale Blooms Ltd	Yatta	Ms. Zipporah Mutugi	Roses	254-733722180	rdale@swiftkenya.com
111	Rose plant	Kitengela	Mr. Atenus Roses			
112	Roseto Limited	Nakuru		Rose		s roseto@megaspringgroup.com
113	Rosepath Petals Ltd		Director	Roses	254-51-2216400	sales@rospathroses.com
114	Shalimar Flowers (K) Ltd	Naivasha	Export Manager	Roses	254-722811832	
115	Karuturi Ltd	Naivasha	Mr. T. Srinivasan	Roses	020 - 827488	peeush@eaga.co.ke
116	Schreurs EA Ltd	Naivasha	Mr. Haiko Backer	Roses 2	54-5050203	sales@schreurskenya.com
117	Selecta Flora	Nairobi	Ms. Mary Mwangi	summer flowers	254-725075569	sales@floratrends.co.ke
118	Simbi Roses Ltd	Thika	Mr. Jefferson Karue	Roses 2	54-0202042203	kingi@sansora.co.ke
119	Sian Agriflora	Nairobi	Mr. Jos van der v	Roses/lilies	254-722203630	info@sianroses.co.ke
120	Sian Winchester	Nairobi	Mr. R Mulinge	Roses 2	54-725848910	rmulinge@sianroses.co.ke
121	Solo plant Kenya Ltd	Kiambu	Mr. Haggai Horwitz	Roses	254-732439942	hagai@soloplant.co.ke
122	Sun buds	Naivasha	Mr. Paul Kamau			sunbuds-k@kenyaweb.com
123	Sian Maasai Flowers	Kitengela	Mr. Andrew Tubei		254-722728364	atubei@sianroses.co.ke
124	Sugutu Flowers		Mr. Yabesh Marga		254-733719053	sugutugrowers@yahoo.com
125	Sunrose Nurseries	Athi River	Mr. Nehemiah A.		254-0203586939	info@sunrosenurseries.co.ke





# Exporters Fruits & Vegetables

126	Suera Flowers Ltd	Nyahururu	Ms. Susan Mureithi	Roses	254-724622638	sueraffarm@suerafarm.sgc.co.ke
127	Tambuzi flowers	Narumoru		Roses	254-0623101917	info@tambuzi.co.ke
128	Terra Nigra	Flower park	Mr. Peter vandemeer	Roses	254-722926588	petervandemeer@terranigra.com
129	Transebel Ltd	Thika	Mr. David Muchiri	Roses		admin@transbel.co.ke
130	Terrefleur Ltd		Mr. Kaluku		254-6730063	chris@terrafleur.com
131	Terrasol	Limuru	Mr. Sjaak Nannes	Cuttings	254-722387943	info@terrasolkenya.com
132	Timaflor Ltd	Timau	Mr. Bryan Allen	Roses	254-06241263	timaflor@wananchi.com
133	Tropiflora	Limuru	Krasensky	Carnations	254-020201390	Tropiflora@tropiflora.net
134	Timau Flair	Timau	Mr. Philip Ayiecha	Roses	254-723383736	
135	Tulaga Flowers	Naivasha	Mr. Dennis Wedd	Roses	254-724819377	tulagaflowers@africanonline.co.ke
136	Uhuru Flowers	Timau	Mr. Ivan Freeman	Roses	254-722863252	ivan@uhuruflowers.co.ke
137	Valentine Kibubuti	Kiambu	Ms. Suzan Maina	Roses		
138	Van den berg Roses	Naivasha	Mr. Johan Remeus	Roses	254-0505050439	johan@rosekenya.com
139	Vegpro-K Ltd	Timau	Mr. Vivek Sharma	Roses		vivek@vegpro_group.com
140	Waridi Ltd	Athi River	Mr. PD Kadlag	Roses	254-724407889	kadlag@waridifarm.com
141	Windsor Flowers	Thika	Mr. Pardeep	Roses	254-06724208	farm@windsor-flowers.com
142	Xpression Flora Ltd	Salgaa	Mr. Samir	Roses	254-724518140	
143	Wilham Kenya Limited	Thika	Mr. Ashok N. Wandhekar	Fruits and Vegetables	254-724 265777	Kabukufm@eaga.co.ke
144	Zena Roses	Thika	Mr. Peter Ochami C	arnations	254-712006323	productionthika@zenaroses.co.ke

## FRUITS AND VEGETABLES

NO.	COMPANY	LOCATION	CONTACT PERSON	PRODUCT	TELEPHONE	E-MAIL ADDRESS
1	AAA Growers Ltd	Nairobi	Mr. Neville Ratemo	Horticulture	020 - 4453970 - 4	admin@aaagrowers.co.ke
2	Belt Cargo Services Export Ltd	Nairobi	Mr. J. Muigai	French beans, baby corn	020-4448821	bcs@beltcargo.com
3	Best Grown Produce (K) Ltd	Mr. Paul Muigai		020 - 222755	bestgproduce@yahoo.com	
4	Chirag Kenya Ltd	Nairobi		Sales Team Spices & herbs	254 20-3573000	naturesown@swiftkenya.com
5	Canken International Ltd	Eldoret	Mr. Mohamed	chillies & fruits	020-222736367	canken@cankencargo.com
6	Darfords Enterprises Ltd	Athi River	Mr. Abdul	Vegetables	254-206622857	abdulkarim@darfords.co.ke
7	Delmonte Kenya Ltd	Thika	Sales manager	fruits	020-672141600	nanasi@freshdelmonte.com
8	PJ DAVE EPZ Ltd	Isinya	import & export manager	Dried herbs & Roses	020-354 2012	pjdaveflowers@wananchi.com
9	Dominion Vegfruits Ltd	Nairobi	Mr. John Mairura	Fruits & vegetables	020-823002/ 823003	vegfruits@wananchi.com
10	East African Growers Ltd	Nairobi	Mr. Peeush Mahajan	Fruits & vegetables	020-822034/25	peeush@eaga.co.ke, george@eaga.co.ke
11	Equatorial nut processors Ltd	Nairobi	sales manager	macadamia nuts	020-2030196	gatua@equatorialnut.co.ke
12	Everest Enterprises Ltd	Nairobi	Mr. John Karuga f	ruits & vegetables	020-3542009	smuhoho@everest.co.ke
13	Fian Green Kenya Ltd	Mombasa Rd	Mr. Francis Thuita	fruits & vegetables	020-826157,1	info@fiangeens.co.ke
14	Fresh An Juici Ltd	Embakasi	Ms. Maleka Akaberali	Fresh fruits & vegetables	020 -826090/3	maleka@freshanjuici.co.ke
15	Fresco Produce Ltd	Nairobi	Mr. Charles Mbugua	Vegetables	254-0722-764395	mbugua@frescoproduce.co.ke
16	Frigoken Ltd	Nairobi	Mr. D. Karim	fruits & vegetables	020-2391717	frigoken@africaonline.co.ke



# Exporters Fruits & Vegetables

NO.	COMPANY	LOCATION	CONTACT PERSON	PRODUCT	TELEPHONE	E-MAIL ADDRESS
17	From Eden Ltd	Nairobi	Mr. Zulfikar Jessa	Vegetables	020-8562203	roy@from-eden.com, zul@tilleygroup.com
18	Global Fresh Ltd	Nairobi	R. Chaudhry	Vegetables&fruits	020 - 827549/50	info@globalfresh.co.ke
19	Green Kenya Organization	Luanda	Charles Butiko	onion&Tomatoes	254-723 119111	greenkenya28@gmail.com
20	Greenlands Agro Producers Ltd	Nairobi	Mr. G. Murungi	fruits&vegetables	020-827080/1/2	murungim@greenlands.co.ke
21	Highlands canners Ltd	Nairobi	Sales manager	fruits&vegetables	020-8564048	info@highlandcanners.co.ke
22	Hillside Green Growers Ltd		Ms. Eunice Mwongera	fruits&vegetables	020 - 2397353	eunice@hillsidegreen.com,
23	Homegrown Kenya Ltd	Nairobi	Mr. Richard Fox	Flowers&vegetables	020-3873800	Richard.Fox@f-h.biz
24	Indu farm EPZ Ltd	Nairobi	General Manager	Vegetables	254-20-550215/6	info@indu-farm.com
25	Jakal services Ltd	Mombasa	Mr.Bandali	fruits& spices	254-7412229435	jakal@ikenya.com
26	Jungle macs EPZ Ltd	Thika	Sales manager	fruits&vegetables	020-2451841	info@junglemacadamias.com
27	Jetlak foods Ltd	Ruiru	Information	fruits&vegetables	254-722754181	mail@jetlak.com
28	Indu farm EPZ Ltd	Sameer Park	Mr. Christian Bernard	Fresh fruits &vegetables	020-550215/6/7	info@indu-farm.com
29	Kakuzi Ltd	Thika	Mr. Richard Collins	fruits,nuts,tea	"060- 2033012,"	rcollins@kakuzi.co.ke
30	K H E (1977) Ltd	Imara Daima	Mr. Manu Dhanani	Fresh fruits &vegetables	020-2517979	khe@khekenya.com,
31	Kandia Fresh Produce Suppliers Ltd	Nairobi	Ms. Lucy Mundia	fruits&vegetables	020 - 3500866	kandia@swiftkenya.com
32	Kenya Orchards Ltd	Nairobi	Sales manager	fruits&vegetables	254-2054161	N/A
33	Keitt Exporters Ltd	Nairobi	Asif Aman	Fresh fruits &vegetables	020 - 822829	asif@keitt.co.ke
34	Mace foods Ltd	Eldoret	Sales manager	Vegetables	254-720391290	info@macefoods.com
35	Mugama Farmers	Co-op Union Ltd	Murang'a	Sales Team Vegetables	254-728-358 211	mugamaunion@yahoo.co.uk
36	Makindu Growers & Packers Ltd	Nairobi	Mr. O.P. Bij Okra	Passion Fruit	020- 822812/196	info@makindugrowers.co.ke
37	Meru Herbs		Marketing manager	Organic products	254-20-4442081	meruherbs@meruherbs.com
38	Mount Elgon Orchards Ltd	Kitale	Bob Andersen	Orchards	254-20 5431352	info@mtelgon.com
39	Mboga Tuu Ltd	Nairobi	Mr. J. Kent	Chillies&vegetables	020-3877988	mtl@wananchi.com
40	Mixa Foods & Beverages	Kisumu	Charles O. Odira	fruits&milk	254-733-714584	info@mixafoods.co.ke
41	Mosi Ltd	Juja	Rose wahome	fruits	254-722204911	mwaiwahome@mosiflowers.com
42	Migotiyu Plantations Ltd	Nakuru	Mr. B.K. Rao	Herds&seed production	051 - 2214898	alpeghasial@wananchi.com,
43	Namelok Exotics (K) Ltd		Mr. D.T. Sinkeet		0724-743258	info@namelokexotic.com
44	Njambiflora Ltd	Ms. Marie	Njambi	Vegetables	020-822506/7	njambiflora@yahoo.co.uk
45	Nicola Farms Ltd	Nanyuki	Ms. Grace Wanjiku	Fresh fruits &vegetables	020-2048874/76	marketing@nicola.co.ke
46	Olivado Kenya EPZ Ltd	Nairobi	Nairobi General Manager	Avocado	254-710-535303	gh@tanlay.com
47	Rea Vipingo Plantations Ltd	Kilifi	Managing Director	Sisal	254-721465035	info@reavipingo.co.ke
48	Saw Africa EPZ Ltd	Thika	General Manager		254-722-531106	wainaina_patrick@yahoo.com
49	Sacco Fresh Ltd	Nairobi	Mr. J. M. Muia	french beans	020-824687/8	info@sacco-fh.com
50	Shree Ganesh Ltd	Online	Mr. Kanji Kalyan Patel	Vegetables&onions	020 - 80243645	meleka@freshanjuici.co.ke
51	Sian Agiflora Kenya Ltd	Nairobi	Ms. Angelina Mangat	Calla Lilies	020-822220	rano@sianexports.com
52	Syngenta EA Ltd	Nairobi	Sales manager	Seeds	254-203222800	synjenta.east_africa@seynjenta.com
53	Sunripe (1976) Ltd	Nairobi	Mr. Hasit Shah	Fresh fruits &vegetables	020-822518/822879	info@sunripe.co.ke
54	Value Pak Foods Ltd	Nairobi	Mrs. J. R. Patel	fruits&vegetables	020 2695633	valuepak@wananchi.com
55	Valentine Growers CO.Ltd	Kiambu	Sales Team	Vegetables	254-720203765	info@valentine-flowers.com
56	Vegpro Kenya Ltd	Nairobi	Mr. Bharat. Patel	French beans	020-822831 - 4	bharat@vegpro-group.com
57	Wamu Investments Ltd	Nairobi	Mrs. Peris Muriuki	Fresh fruits &vegetables	020-822441	peris@wamu-investments.com



# Guangzhou Int'l Flowers Exhibition 2017

**Monday March 13 - Wednesday March 15**

Guangzhou International Sourcing Centre  
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Organizer



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**Orvego®** is the innovative fungicide from BASF that combines the well known active ingredient dimethomorph with Initium® to form a premium preventive shield against downy mildew.

Downy mildew, *Peronospora sparsa*, is a serious disease that attacks all types of roses. It can be quite severe under cool moist conditions and will defoliate rose plants within a day or two in the greenhouse.

Downy mildew is extremely infectious and will spread throughout your roses very quickly if left untreated. It defoliates a plant so rapidly that the plant loses its photosynthesizing ability and weakens the plant to a degree that it becomes totally unproductive.

**BASF solution: Orvego®**: Dose Rate 0.8 l/ha

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

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

### Key Advantages of Orvego®

- New generation fungicide with dual mode of action.
- Highly effective against downy mildew and *Phytophthora* spp. in ornamentals and a wide range of crops.
- Excellent and long lasting preventive activity.
- Short re-entry period, safe for the workers.
- IPM compatible.
- Has excellent compatibility with tank mixes.

### Key Benefits For You:

- **Orvego®** protects your crop effectively and keeps them healthy longer to develop their full potential.
- Yields high quality & residue free flowers.

