



Grace Ngungi:
Avocado lessons

Controlling False Codling Moth (ECM)

Plant Your Age

The good, the bad and the ugly



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**Mathematically
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|| HORTISPOT ||

In 2022, Kenya hosted the International Flower Show (IFTEX), the first gathering of the sector in three years following the shutdown resulting from the outbreak of the coronavirus, (Covid 19) pandemic.
Catherine Riungu



A year of mixed fortunes

The second year of the third decade of the century is likely to be imbedded in the history of the global horticulture industry in general and Kenya in particular.

In 2022, Kenya hosted the International Flower Show (IFTEX), the first gathering of the sector in three years following the shutdown resulting from the outbreak of the coronavirus, (Covid 19) pandemic. That Kenya was the first to bring the world to the capital Nairobi is something to be proud of, considering it marked the jumpstarting of the multi-billion business after three years of uncertainty. The hall at Oswhal Centre was for the three days of the show a bevy of activity. By the time the bell rang to signal the closing of the curtains, it felt like the visitors and exhibitors hadn't had enough!

It was at IFTEX the Kenya Plant Health Inspectorate Service (Kephis), the one organization highly credited for the success of the Kenya horticulture industry mentioned the threat posed by the false codling moth (FCM) to the country's exports. The insect, that has since been flagged as a quarantine pest, is currently the most problematic and responsible for interceptions and alerts requiring meticulous attention to keep it off produce.

The week After IFTEX, the Avocado Society of Kenya held the Africa Avocado Congress, once again pulling the green gold fraternity to Nairobi to discuss what is becoming arguably the next biggest thing in the world of fresh produce. Due to escalating demand from international and local markets, the avocado has attracted many, ranging from small to large scale growers. Over the past three years, millions of seedlings have been planted, and as many failed to thrive and more not flowering.

Experts are now warning growers to source seedlings from certified nurseries and practice proper crop care if they expect to reap from the fortunes created by the fruit demand. The reality though, as growers will soon realize when the seedlings put in the ground either fail to fruit or fruit into an inexportable produce, why it is always important to seek advice from dependable institutions. As Grace Ngungi narrates, it can be very costly to make mistakes as she learnt through the journey that has made her the queen of Kenya avocados. The good news though, the avocado market is huge, Kenya has the best climate for year-round supply and we can grow it in many parts of the country.

Within the gloom of Iftex and avocado stories, we take this opportunity to congratulate PJ Dave Group for the 25 years journey in the Kenya flower industry and diversification into other horticultural crops, avocado being a signature crop through the Isinya avocado nurseries. We wish them all the best for the next Jubilee and further.



Experts are now warning growers to source seedlings from certified nurseries and practice proper crop care if they expect to reap from the fortunes created by the fruit demand



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Controlling False Codling Moth (FCM) with Delegate 250 Wg

Biology of the FCM

The False Codling Moth, *Thaumatotibia leucotreta*, is a highly polyphagous pest, feeding on more than 50 plant species, mostly crops of economic importance. The pest has been spotted on export crops such as Capsicum spp, Citrus spp and Rosa spp. In the recent past the pest has become an increasingly important pest, necessitating more attention from a pest management point of view.

False Codling Moth (FCM) is a nocturnal pest with 1.25cm-2cm wings and colour variation. The eggs of FCM are laid singly or in small groups on the surface of the flower buds and the tender parts of the plants. Eggs are difficult to detect because they are flat and take same colour with the substrate. The pest has a 30-174 days lifecycle and can produce 2 to 10 generations in a year laying up to 800 eggs depending on multiple factors including temperature, food availability and quality, and humidity. Eggs hatch into larvae in 20-22 days. At maturity, the larvae exit from the fruit or flower buds and drop on the ground.

The stage likely to be detected during inspection is the larva, while in the field adult stages can be detected on traps. Larval stages are internal feeder in flower buds in the case of Roses. The larval stages are visually detected by use of a hand lens, usually done by looking out for symptomatic buds, which when opened small holes are observed in the bud where the larva has penetrated and exited the bud. Frass can also be observed protruding from the hole, larvae may migrate to the centre of the bud. The pupae then undergoes a metamorphosis to winged adults and the cycle restarts.



Pest management,

Cultural method:

- Remove all the unwanted affected plant parts.
- Keep the beds clean, free of plant debris. This would limit chances of Pupa stages hiding.
- Remove crown galls.

Biological method:

- Attract and Kill by use of pheromones
- Mating disruptors if available.

Chemical method:

Solution from Corteva Agriscience
Delegate 250 WG

DELEGATE 250 WG is the first registered FCM product on flowers in the market. The new kid on the block has a long heritage focused on offering complete solutions to the growers. The aim is to enrich the lives of producers and consumers, ensuring progress for generations to come. DELEGATE 250 WG is an insecticide belonging to the Spinosyns

class and to Group 5 mode of action classification. DELEGATE 250 WG has improved potency at target site, improved residual control, improved translaminar activity and penetration through the plant cuticle, increased activity at the target site and is more stable in sunlight. It provides broad spectrum activity on key pests from Lepidoptera, Thysanoptera, Diptera and Coleoptera and other pests such as Pear Psylla and Asian Citrus Psyllid. It is also effective on whiteflies nymphs and has ovi-larvicidal activity when sprayed on eggs.

Due to its improved rain-fastness and photo-stability property with no breakdown in sunlight, the product has better weather resilience. It delivers exceptional, fast-acting activity within minutes to hours with a fast knockdown on contact toxicity. DELEGATE 250 WG is a unique product that is highly active at the target site in the pest's nervous system causing paralysis within minutes its effective through ingestion and contact making it difficult for the target pest to escape the activity of the product.

DELEGATE 250 WG with low impact on beneficial arthropods making it compatible with IPM programs. Its short environmental persistence and greater ingestion versus contact activity minimises impact on natural enemies. It has minimal impact on pollinators once the spray deposit has dried up. It is practically non-toxic to honeybees when spray has dried up. DELEGATE 250 WG is safe with minimal risk (if any) to predatory lacewings, ladybird beetles, predatory mites, and parasitic wasps.

Moreover, it is a valuable tool in resistance management, it has shown no cross resistance within existing chemistries of the IRAC groups."

With no phytotoxicity, no varietal sensitivity observed making it a suitable partner to be a mixed with most adjuvants when necessary, in addition to being compatible with commonly used Fungicides, Insecticides and Foliar Fertilizers.



The product won Presidential Green Chemistry awards in the USA, as well as AGROW award as Best New Crop Protection Product. It is also classified by EPA as a reduced risk pesticide. If properly utilised, DELEGATE 250 WG has the potential of further cementing Kenya's position as the leading flower exporter to the European markets.

To reduce the potential for resistance development we recommend alternation of DELEGATE 250WG with different Mode of Action actives recommended against control of FCM.

Kenyans encouraged to embrace tree-planting as the country marks 'Plant Your Age' Day, September 14

By Brian Okinda

To many across the country, September 14th passes, perhaps, without any notice; after all it, apparently, is just like any other normal day, without holidaying and fanfair. However, this should not be the case as September 14th of every year marks a day dedicated to the physical act and journey of planting and growing trees equivalent to one's age.

This date marks the 'Plant Your Age' Day, an occasion that gives each one across the country a chance to restore hope, inspire a new generation, replenish health and make the world a better place for all through planting trees.

And this year's main event will be held in Homa Bay County at Arina Primary School, in Unga Village, Ndhiwa Sub-county. Some 1,881 tree seedlings will be planted across Unga Village of Homa Bay County to symbolize the newly elected Kenyan leaders; from the Members of the County Assembly, Members of National Assembly, Senators, Governors, Deputy President and the President.

The day will also be marked across the country with individuals, corporates, school children and government institutions planting trees in a series of events spearheaded by the Green Africa Foundation and its partners.

Urging Kenyans to embrace and participate in this noble exercise, Dr Isaac Kalua Green, who is the founder and chairperson of the Green Africa Foundation, holds that when you plant a tree, you give life to the living and make it worthwhile for you, your family and future generations.

"The 'Plant Your Age' Campaign seeks to enhance and unify tree growing



Green Africa Foundation Chairman, Dr Isaac Kalua Green (in third left) with leaders from other partnering agencies during the Plant your Age Day at Arina Primary school in Ndhiwa Countituency, Homa Bay County.

across Kenya, Africa and globally. There are already numerous tree planting campaigns championed by different players and entities, but they are often time-bound and splintered, which makes it hard to track progress, survival and flourish of planted trees," says Mr Kalua.

He indicates that this tree-planting campaign does not seek to replace or outshine any of these other tree-planting ventures, but rather to enhance and unify tree-growing at individual, corporate and national levels. It essentially complements other key environmental days like 'World Environment Day', the 'International Day of Forests' and 'National Tree Planting Day. It only differs from these days because of its resounding call for people to take individual steps on growing of trees.

And while at it, it seeks to ensure that those who plant and grow trees equivalent to their respective ages also replenish their health through healthy nutrition and regular workouts, replenish their relationships through deliberate acts like communicating better and travelling together leading to peace within communities, replenish their livelihoods by starting new entrepreneurships, growing existing enterprises and revamping careers and replenish their spirituality through re-dedication to God.

According to the World Health Organization (WHO) data, noncommunicable diseases kill about 41 million people annually. This accounts for 71 per cent of all deaths globally. Among these are lifestyle diseases that can largely be prevented through proper nutrition and fitness.



Green Africa Foundation Chairman, Dr Isaac Kalua Green plants a tree during the Plant your Age Day.

Yet natural landscapes, fresh vegetables and fruits are all key drivers of healthy bodies and minds. Trees play a key role in all these drivers since they provide fruits and underpin natural landscapes. Through agroforestry, they also protect the soil that nurtures vegetables and other crops.

“Every time you grow a tree, you are essentially investing not just in planetary health, but also human health. This September 14th, invest in your health by planting trees commensurate to your age. Let’s all grow trees and harvest health!,” Dr Kalua says.

He notes that the ‘Plant your Age’ campaign provides an opportunity for national and county governments, corporates and individuals to inject innovation into tree-growing by ensuring longterm flourishing of these trees.

It also grants a platform for governments to expand the forest cover of gazzetted national forests by investing national resources into consistent tree-planting exercises within these forests, as well as unlocking multiple opportunities for Corporate Social Investment that will expand not just forests and woodlands, but also trees and better relationships. The ‘Plant your Age’ campaign was an idea mooted by Dr Kalua when the Late Laureate Prof. Wangari Maathai passed

on. Dr Kalua, initially urged Kenyans to plant 71 trees each to mark every year of the late Prof. Maathai’s life and to commemorate her efforts in sustainable development, democracy and peace.

Kenyans consequently heeded this call and established the “Wangari Maathai Green Corners” in various parts of the country. The first one was established by then Minister for Agriculture Dr William Ruto and other dignitaries at the University of Nairobi’s, Wangari Maathai Institute in Lower Kabete. This concept later evolved to today’s rallying call “Plant Your Age” Day.

And today, this concept is a global call to action for human beings to plant trees equivalent to their respective ages and ensure the specific trees grow to maturity. It is a personalized commitment to conserve the environment to ensure that wanton deforestation doesn’t result in increasing loss of the most important commodity - water - which is a crucial factor since an abundance of trees is the primary prerequisite for water sufficiency.

The first ‘Plant Your Age’ Campaign was subsequently launched by Kenya’s third President, the Late Mwai Kibaki when we dedicated the Kibaki Green Corner -with 80 trees to commemorate his 80th birthday then- in Kitui during the National Tree Planting Day held on

April 30th, 2012 in the county. Kenyans have, thereafter, been planting and growing trees equivalent to their ages at their preferred places.

“Our enhancement is based on the concept of planting and growing trees that correspond to your age, whether that age is biological, product or anniversary related. For instance, during the anniversary of a given corporate’s founding, all staff members can plant trees corresponding to the corporate age in question or number of products they handle. When trees are planted, they are in essence ‘born’ and must be nurtured to full maturity. This is a critical component of the ‘Plant your Age’ campaign. The campaign is not limited by time, geography or sector but is flexible to the needs and capabilities of individuals and entities,” Dr Kalua says.

The ‘Plant Your Age’ Campaign extends a hand of partnership to individuals who are part of a bigger movement that lends longterm significance to their individual tree growing efforts. All participants are required to sign their commitment to plant their age and ensure the trees grow to maturity. They are encouraged to share images of their ‘Green Corners’ and share challenges faced. This is done through online and offline forums. The initiative is meant to move our mindset from tree-planting to green-growing.



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Congratulations

We would like to congratulate the PJ Dave Group with their silver anniversary. The PJ Dave Group holds a special place in Chrysal's heart already for many years. It was also my friend Santosh at PJ Dave Flora who was one of the early adopters of our Rose Dip service - although being amongst the most critical growers at that time.

We are proud to state that we have been able to increase overall quality of their Rhodos, especially during botrytis season, and are working closely together with all the five farms and all their varieties. For the future, we are happy to see we are moving together into Sea Freight. We wish the group a great next season and hope to be there again during their gold anniversary.

-- Niels van Doorn, General Manager Chrysal Africa Ltd.



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CHRYSAI

De Ruiter's Rhodos®

By Rob Letcher

De Ruiter East Africa Ltd. (DREA) is De Ruiter's main operation in Africa. Established at the end of the eighties as one of the pioneer rose breeders in an upcoming flower industry on this continent, the company was initially set up as an agency with Oserian, one of the founding father companies for roses in Kenya.

In 2007 the company became a 100% subsidiary and from then on De Ruiter took its own course. The cut rose assortment was quickly increased with varieties in the three segments, sweetheart, intermediate and T-hybrid. To be able to offer a good alternative in all segments and colours, the portfolio of 15 varieties increased to 50+, fifteen years ago. As a proven retail variety breeder, DREA gained respect for its wider assortment, including spray roses and other crops such as hydrangeas, hypericum and anigozanthos. With years of a close to 20% market share, De Ruiter is one of the leading rose breeders in East Africa.

Rhodos®

In 2005, a crossing was made between 2 genotypes with the goal to make a variety with a big bud.

In 2007 the seedling was propagated to 9 plants in clone 1 in Holland. In this phase the code showed already the big bud. Because of this characteristic the code was selected for testing in Holland as clone 2. However, for Europe the production was not good enough. Therefore, in 2010, the code was uprooted in the testing area in Holland.

At the end of 2007 the code was selected for testing in clone 1 in Kenya. The idea



was that the production could raise due to the warm climate conditions, while the bud kept a good size.

The genotype started as clone 1 with 15 plants. Based on the bud size and stem quality, the code was propagated to clone 2 in 2008. Clone 2 started in 2008 and for 1.5 years the code was tested for vase life, production, transport behaviour and stem length.

Although the production was not high, the code was propagated to clone 3 in 2010. Especially the bud size and the very good transport behaviour was the reason for selecting the code.

The first Commercial Trials of Rhodos® were planted in Kenya in January 2011. Later that year PJ Dave also planted their first commercial trial at PJ Dave Flowers in Isinya. One could

say a 'Star was born' with Waridi planting the first commercial plantings that year.

Early 2012 PJ Dave Flowers planted their first 1.5 hectare and PJ Dave Flora 1.0 Hectare truly giving impetus to the attraction and demand for Rhodos®. Shortly thereafter Everflora, Subati and Waridi added to the Rhodos® plantings in Kenya. By the end of 2012, 4.4 Hectares of Rhodos® had been planted in Kenya of which 2.6 Hectares was being produced by PJ Dave Flora and PJ Dave Flowers.

Its particular traits, especially the fact that it could be kept dry in a box for up to two weeks, put on a vase and still show a vase life of 12 days or more, made it a very interesting red variety for the market. Its serrated

petals made it an uncommon flower, which moreover did not fully open. This made it a slow starter as a variety. However, its resistance and sustainable characteristics, were noticed by Mr. Pravin J Dave and his family, who with great vision and entrepreneurship, proposed De Ruiter to scale up its production at the PJ Dave farms, at worldwide exclusivity. This daring idea, supported by their unpackers Optimal Connection, was quite innovative for a big headed red standard rose, and was followed by other breeders and varieties afterwards.

Nowadays, about 90% of the Rhodos® production is in the hands of PJ Dave. The other 10% is produced by farms which had the variety in production, prior to granting exclusivity to PJ Dave. The Rhodos® success has set an example for the market and still echoes in the flower industry.



DeRuiter

creating flower business

De Ruiter takes this opportunity to extend sincere congratulations on the 25th Anniversary of the P J Dave Group. De Ruiter and the P J Dave Group have enjoyed a successful collaboration over the past decade and in exploring the opportunities of one of the world's most popular red rose varieties; Rhodos®. You can be proud of the growth you achieved over all these years.

Over the years, you have made us proud by supplying excellent quality of our varieties like Ever Red®, Proud®, Opala® and Mandala®, to the global markets. De Ruiter is proud to have been one of the major rose variety suppliers to P J Dave Group. We wish you all the best of success in future.



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Naivasha Horticultural Fair rolls back

By Brian Okinda

Attracting an audience, not just from across the African continent, but also from Europe, and elsewhere across the globe, the Naivasha Horticultural Fair is the largest horticultural event in Africa. The event has continued to maintain its upward trajectory of over the 20 years of its existence.

For the past three years, however, the Fair took a hiatus after the Covid-19 pandemic struck globally, paralysing virtually all forms of activity and engagements. This means that the premier continental horticultural event has not been held for that duration.

But from September 16th-17th, 2022, the fair marks its return with a full lineup of activities, including exhibitions, conferences and buyer-seller meetings; all which it seeks to accomplish in the two days of its running. At least 170 companies will be in attendance; exhibiting and showcasing their products and services.

This year's event, just like the previous ones, is held at the Naivasha Sports Club, in Naivasha, Kenya. It attracts an array of audiences from across the continent, Europe and even beyond. The event is also open to members of the public and provides a range of entertainment; from live bands, and kiddies' corners, to barbecues and drinks as well as food courts, to provide a family friendly weekend out.

The event showcases products and services from stakeholders in the horticultural industry -primarily the flower industry, but also extending to car manufacturers, accessories, and financial institutions among others- that horticulture enthusiasts wouldn't want to miss.

And what is even more incredible is that revenue generated from the Naivasha Horticultural Fair goes towards supporting a number of charity causes in the region and the country at large.



Richard McGonnell, chairman

Such charity causes include building classrooms for schools within Naivasha and beyond, construction and running a safehouse for abused children, and collaborating with other institutions such as Red Cross in supporting humanitarian activities in the area.

Richard McGonnell, the chairman of the Naivasha Horticultural Fair, also notes that proceeds from the horticultural fair have additionally been used to build an entire school in Naivasha, acquire desks and other learning equipment for schools, and also run at least 20 special needs schools in the region.

Members of these charities are usually part of the annual fair, presenting the benefactors with an opportunity to see how the money they contribute is used.

As the fair returns, Mr McGonnell acknowledges that despite the hiccup caused by the Covid-19 pandemic, it feels great for the Naivasha Horticultural Fair to be back again after the three years of absence.

"We all have missed the fair, so it is great to be back again. When the pandemic struck, there wasn't much we could do about it because there were restrictions. But the Government did a great job in putting measures in place; such as wearing of protective masks, use of sanitizers and discouraging social

interactions, all which contributed to the control of Covid-19. Even though we're still not there yet, we've made great progress in controlling the disease," says Mr McGonnell.

This year's event, he says, is more or less like the previous ones. Nothing much will be new; as there will be the usual exhibitions, interactions between horticulture dealers from across the world, networking and family fun activities. He confirms that the 2022 event expects at least 170 exhibitors (exhibition stands), which is roughly the same number of exhibitors they had in the last horticultural fair.

When the pandemic hit the globe, for obvious reasons the Naivasha Horticultural Fair also took a break. So, one would wonder how did the charity causes it supported survive through the duration of the Covid-19.

"It was through the support of a number of our partners, that we managed to keep the charity causes going during that duration," Mr McGonnell answers.

He cites Greenspan Agritech Ltd, De Ruiter East Africa Ltd, Wildfire Flowers, Flamingo Flowers and Vegpro (K) Ltd among others for helping run the projects that the horticultural fair is supporting.

"We had to pause the building of classrooms and desks for some time. But for supporting the special needs schools and the safehouse, these mentioned partners conveniently came in and helped us both financially and with foodstuffs. And of course I also had to, sometimes, dig into my own pockets and chip in to keep the institutions running.

Mr McGonnell is however grateful to the Government for acting swiftly in controlling Covid-19, and to Kenyans for being vigilant and heedful during the pandemic. Such measures, he says, helped a great deal in controlling the disease.



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False Codling moth (FCM)

By David Mulandi

Introduction

False codling moth (*Thaumatotibia leucotreta*) also called *Cryptophlebia leucotreta* is Lepidoptera moth belonging to the family Tortricidae. It is commonly referred to as orange moth, citrus codling moth or orange codling moth. It is a multivoltine pest with several overlapping generations when environmental conditions are favourable for its establishment.

This pest is believed to have originated in Sub-Saharan Africa and it is a quarantine pest in Europe and the USA. It requires a warm climate for survival and thus does not establish or survive in cool environments with temperatures below 10°C.

Host Range

False codling moth has over 100 host plant, field crops and fruit trees. These plants include: Avocado, Citrus, Coffee, Corn, Macadamia nut, Mango, Pepper, Tomato, among others.

Life cycle

FCM undergoes a complete metamorphosis with the cycle taking between 30 to 174 days.

Egg

Eggs are laid by the adult female moths between 5.00 pm and 11.00pm on fruits or flower buds. A single female moth can lay up to 800 eggs under ideal conditions (25°C) during its life span. Egg incubation is temperature reliant and can take 2 to 22 days with higher temperatures leading to quicker developmental rates. The eggs are laid singly or in clusters and are initially white to cream in colour but turn reddish as development continues.

Larva

Upon hatching, the larvae burrow a 1mm diameter hole into the fruit or flower bud leaving a discolouration on the wound site. Younger larvae feed near the surface while older ones feed deeper in the tissue of the affected plant part. Hatched larvae are around 1mm in length but can grow



upto 15mm over time. Newly hatched larvae are yellowish and spotted will turn into pink to orange colour as they mature. This is the most destructive phase of the pest.

Pupa

At pupation, the larvae spin a cocoon in the soil. This stage is determined by both gender and temperature. Warmer periods lead to quicker emergence. Males mature between 13 to 47 days while females require 11 to 39 days to reach maturity.

Adult

After the pupa stage, moths emerge from the cocoon as adults. Female moths live for about 16 to 70 days while males live between 14 to 57 days.

Host Damage

Flowers

Infested flower buds will have small holes caused by the larvae as it burrows. They leave frass (excrement) around the holes making the flowers unmarketable.

Fruits

Larvae burrowing holes appear on the skin of the fruit. Sometimes these holes appear as dark specks due to frass. FCM causes premature ripening and fruit drop in many fruits.

Feeding points provide a suitable entry point for fungal pathogens.

Importance

False codling moth is quarantine pest

of international in Europe and Many other countries. This leads to many interceptions of produce from most African countries which cause major economic losses to the growers. FCM causes direct yield losses through damage of produce. Infested flowers and fruits may drop before maturity.

Management

To control this pest, it is important to employ a IPM strategy because it is highly difficult to succeed with reliance to one method.

Use of traps to monitor the presence of adults is key to determine when to control the population before experiencing significant damage. Use of friendly biological crop protection products:

Cryptex

Cryptex is a baculovirus product highly specific and effective in controlling FCM population and damage. It is safe to the environment and non-target organisms like pollinators, natural enemies and humans who encounter the product. Moreover, Cryptex is a good resistance management tool since it is very unlikely for the pest to develop resistance against the product due to its unique mode of action.

Thuricide

Thuricide, (*Bacillus thuringiensis* subsp. *Kurstaki*) has been proven to be especially effective against hard-to-kill pests like FCM. It is a great resistance management and has no negative impact to the environment. It is safe against beneficial organisms and has no MRL issues.

Eco-BB

Eco-BB is a *Beauveria bassiana* product with a good efficacy against many crop pests. It has a good control against FCM and is a great fit in all FCM management programs. Eco-BB is approved for organic farming and has been proven to be highly efficacious against all stages of pests at very low rates.



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How a series of missteps and burning her fingers along the way, helped Kiambu farmer to finally find the formula to building an enviable avocado empire

With the right seedlings, as well as due diligence and good agricultural practices, avocado proves to be a lucrative crop.

By Brian Okinda

That avocado is a lucrative crop is a fact that is not open to argument. This is confirmed by the continually growing number of emerging markets for the fruit across the globe. And also the fact that the world over, farmers, policymakers and even leaders are advocating for its cultivation and production, due to its innumerable benefits.

To many, therefore, investing in this crop is a no brainer given the many returns that it prospectively holds. For Kenya's case, this is because the conditions are largely conducive for the crop's cultivation in a number of regions across the country. Hass avocado variety, in particular -as well as the fuerte variety- have a virtually insatiable demand in the international market, the more the reason why many are jumping into the avocado bandwagon.

And while the crop's cultivation may, to the untrained mind, seem as easy to implement as rolling off a log, the truth is that a number of factors go into this crop's cultivation processes, and without due diligence, making losses is an inevitable endgame.

This, according to Grace Ngungi, is a lesson she learnt the hard way and has since, been continually learning -and rectifying her prior mistakes- as she perfects her trade in avocado farming, production and its value chain in general.

She confesses that she, perhaps, did not have this in mind, nor foresee it, when she cleared the coffee bushes on her farm within the bucolic backcountry of Juja in Kiambu County, with an intention of investing in avocado fruits.



Grace Ngungi in her avocado farm named Karakuta in Juja, Kiambu County.

This was in 2008 after she had -a year earlier- left formal employment as a sales representative at Pfizer, and had done consultancy stints at the Alliance for a Green Revolution in Africa (AGRA), the International Labour Organization (ILO) and the United States Agency for International Development (USAID). Here's her story.

A short meandering drive across the woody countryside and past a reservoir ends at the Karakuta farm, where thousands of avocado trees -in some three farm blocks- are at different stages of production and maturity. At the farthest end is Block A, and this is where Ms Ngungi says she went (learnt) through a 'baptism of fire', when she decided to get into the avocado industry.



There was also the issue of harvesting at the wrong time of the year.

“I lost about eight tonnes of my harvested avocado fruits during this time,” she says, her countenance not betraying any signs of regret as, according to her, ‘her series of false-steps were a learning process’.

Several other challenges cropped up during the starting years of her enterprise, but it is her resolve that kept her going.

Her herbs venture -featuring basil, chives, thyme and rosemary- which she runs concurrently in greenhouses on a different section of the farm, played a key role in assuaging her financial situation during this period.

Today, some 14 years later, Ms Ngungi’s Karakuta Farm, is among the most progressive avocado -and herbs- farms in the country, and according to her, she intends to make it rival regional giants like Kakuzi, which is the most widely known especially in international export markets. Her farm hosts some 6,094 avocado trees, and the number keeps growing.

Her biggest breakthrough, however, came when her farm’s avocado fruits were selected to open the Kenya-China avocado market. Part of the first batch of avocado fruits that Kenya recently exported to China, came from her Karakuta Farm.

That, according to her, was a great feat and will remain a moment that she will ever cherish; in addition to other firsts and acknowledgements that she has already received in the course of, and as a result of her avocado farming.

Other great achievements -and firsts- that she has been acknowledged for include being contracted to set up similar projects like hers, in other countries such as Rwanda (which is ongoing) and Burundi, which is in the pipelines.

She is also in the process of transforming her farm into a training and resource centre for avocado farming, as well as other horticulture crops including french beans, and herbs.

One may say, it all was a case of trial and error, she insinuates.

It all started when she set out by first establishing her own avocado nursery with at least 10,000 seedlings, and that’s also where her problems began. She tried her hand in the seedlings project on the behest of an acquaintance who was ‘knowledgeable’ in avocado production.

Unfortunately, in the subsequent years, it was a rollercoaster of losses for her. First, the seedlings she had prepared for planting outgrew their pruning stage after the expert she had hired suddenly ‘disappeared’. Still yet more seedlings were damaged along the way. From the ill-fated seedlings project, she was later able to salvage about 4,000, which she planted on the Block A; which currently has 1,800 avocado trees of varying ages, sizes, varieties and different stages of maturity and productivity.

Ms Ngungi notes that it is also at this stage, that after loosing some 6,000 seedlings, she indiscriminately bought and planted more seedlings to fill for those that had died; only to, so much

later on, realize that they were of poor quality and unmarketable varieties.

“When they matured, I waited and waited, hoping that a random customer would suddenly pop up and buy the fruits. But none seemed to be forthcoming. I had to, sadly, acknowledge that I had, once again, messed and watched from a distance as the trees were cleared to pave way for planting new ones,” she says.

Still yet, later, during the fruition stage of the fruits, she realized that she did not observe good agriculture practices during the course of the cultivation of the avocado trees. And in the end, the fruits were of the quality not desired by the international markets -and even to some extent the local markets-

Her avocado fruits in the first year of production were so small (size 26) compared to the desired size (size 12-18 or thereabouts), had poor texture and undesirable colour. Other than improper farming practices, majority of these issues were largely due to harvesting immature fruits as well as pests and diseases and wild animals.

At the same time, she is embarking on a project involving working with avocado farmers across the region through contracting them for provision of quality-assured avocados for the export markets.

So what's the secret to her success?

Part of it is due to her resolve and passion for fruit farming -having, perhaps, inherited the enthusiasm from her father, also a fruit farmer.

The secret to her success also, all boils down to due diligence, good agricultural practices and, perhaps most importantly, using the right seedlings when growing the avocado trees. For starters, before growing anything, always do a soil test on the farm on which you want to grow the crops to check its condition, then correct it accordingly. In such cases, it usually is appropriate to work with professionals and experts in the trade as well as agriculture extension officials.

Cheap is always expensive in the long run. According to Ms Ngungi, she has always strived to acquire the right seedlings from professional and certified seedling dealers. Even though more expensive, seedlings from professional dealers are ideal in that they have been well attended to, are mature enough and have attained the ability to withstand the rigours that come with the transplanting process. Chances of these plantlets dying is therefore minimal.

Avocado trees, she adds, should ideally be planted on raised ground for warmth and to guarantee that the water flows and drains well. This ensures water-logging, which causes leaching and which is damaging to the trees, is minimized. "Noteworthy is that one should not dig deep holes for planting the avocado trees," Ms Ngungi adds.

As the trees begin budding, this is the most important stage for the avocado plant. She notes that this stage determines the number of fruits that will be produced and that the farmer will harvest from the tree. "Ideally, an avocado tree produces an additional 100 fruits during each year of its existence. For instance, if during its first year of production it produced



100 fruits, in its second year it should produce 200, and 300 in its third year," Ms Ngungi reveals.

Therefore, during the budding stage, boron foliar should be used on the plants. Many farmers make the mistake of applying boron on the avocado during the tree's flowering stage, which is a little late, according to her. Calcium is next applied to the trees as the buds start to flower

Boron ensures comprehensive distribution of the calcium in the tree, which boosts flower formation. This also enhances pollen-tube growth, which later directly increases fruit-setting. Other minerals like zinc, copper, iron, manganese, and molybdenum, among others are equally essential for the avocado tree's optimal production.

Amino acid is also sprayed on the trees until the fruits near maturity, according to Ms Ngungi, also noting that she uses at least five bucketfuls of manure on each tree.

The fruits should then, ideally, be harvested during the dry season when their 'fat' content is high and the fruit is at its 'creamiest'. This should also be done when the international markets are good -i.e when there is no glut both locally and internationally- to minimize the risk of postharvest losses. Ms Ngungi says she sells to the international markets in the months between July and November.

Care should also be taken during the fruits, harvesting, transporting and storage processes to avoid bruising and damaging them.

Importantly, farmers should avoid harvesting and selling immature fruits,

as this is among the key reasons why international markets shun Kenyan avocado fruits. Farmers ought to produce fruits that meet the demands of these markets; including size, texture, quality and being free from pests and diseases. Essentially, quality of the fruits is key.

Avocado continues to play a key role in the growth of the country's economy, with Kenya emerging and continuing to play a leading role in the fruit's production and supply in the international markets.

According to the Fresh Produce Exporters Association of Kenya (FPEAK), the country was ranked 8th globally in export of avocados in 2019, with a market share of 2.1 percent. During this period, the country shipped out 59,000 tons of the commodity with an annual value of KSh10.6billion, behind Mexico, Netherlands, Peru, Spain, Chile, Colombia and the United States.

According to the Horticulture Crops Directorate (HCD) of the Agriculture and Food Authority (AFA), in 2020, the value of the avocado exports grew to Ksh14.5billion, while in the period between January and November 2021, the exports of the fruits were valued at Ksh14.4billion, indicating an even growth.

The Validated Horticulture Report by the HCD, on its part notes that despite Kenya exporting only about 10 percent of its total avocado production in 2020, it still was the leading exporter of the fruit in Africa, and among the top 10 world's largest exporters of avocados. The country, essentially, continues to be ranked highly in the production of avocados. □

Cryptex®: A Cutting edge granulovirus technology for the suppression of False Codling Moth.

A little creature has been the cause of much destruction in the ornamental and horticultural industry recently. This fuss is all about the False Codling Moth (FCM – *Thaumatotibia leucotreta*). Three years ago, False Codling Moth was classified by Europe as a quarantine pest and member countries were recommended to regulate its presence. So, what is going on? Are we looking at a serious threat to the ornamental and horticultural sector?

No. Not at all, thanks to Andermatt Kenya Limited. Farmers preparing their spray programs can now include Cryptex® a cutting edge granulovirus technology for the suppression of False Codling Moth (FCM).

Why Choose Cryptex®

Speaking to Floriculture Magazine, Mr. Stephen Musyoka, General Manager, Andermatt Kenya said, 'Flower growers are today looking for innovative solutions and that is what we are offering. Cryptex® is a South African isolated granulovirus strain, manufactured in Switzerland by world renowned virus specialists, Andermatt Biocontrol. Cryptex® achieves highly effective FCM population reduction and damage control when applied as recommended. It has a very specific target range, a unique mode of action and a user-friendly SC formulation. Cryptex® is non-toxic, has no MRL requirements and no with-holding period'.

Growers who have used Cryptex® are in agreement, the solution has proven and consistent efficacy against FCM on flowers and horticultural products. They described it as an effective granulovirus product and one of the best tools currently available to reduce target pest populations.

Cryptex® will not affect any beneficial organisms and is harmless to bees. The mode-of-action of virus products differs from chemical insecticides, making Cryptex® ideal for use in IPM and resistance management programs.

Mr. Musyoka confirmed that this advanced formulation allows for versatile application options with no feeding stimulant (molasses) needed. Its lipophilic characteristics ensure excellent adhesion and rain fastness once it has dried off after application. Cryptex® can be tank mixed with most agricultural products

provided pH is correctly managed (i.e. pH of tank solution should be between 4 and 9). The product has excellent shelf life; min. 24 months at 4 °C, and longer if kept at -18 °C. It is suitable for organic and conventional agriculture and can be applied during the harvesting period.

How does Cryptex® work?

Cryptex®, a *Thaumatotibia leucotreta* Granulovirus is produced by Andermatt Biocontrol, Switzerland - leading virus producers globally, with more than 30 years' experience in the commercial pest control industry.

Cryptex® contains encapsulated virus particles, which are applied just after peaks in FCM flights. It has to be ingested by FCM larvae to be effective. Once ingested the alkaline conditions in the FCM midgut dissolves the protective capsule, activating the virus particle which infects and replicates itself in the cells lining the midgut and resulting in death. Buffering of the spray mix (pH 5 to 8) is extremely important as very alkaline or acidic conditions could dissolve the protective capsule in the spray tank and decrease the virus particle's tolerance to environmental conditions, as well as overall efficacy.

The Andermatt Madumbi 'team of experts' highlight 5 reasons why Cryptex® should be included in your growing program this season

1. 'Backed by Science, Loved by Nature' – Cryptex® has been extensively researched and proven to achieve consistent efficacy against FCM on a variety of crops
2. An integrated strategy against FCM increases overall efficacy and manages resistance. The inclusion of biological products such as Cryptex® in IPM programs is becoming ever more important
3. Cryptex® is a quality product with no impact on beneficial organisms
4. Cryptex® is easy to use! Cryptex® can be added to tank mixtures and has been proven to be just as effective without additional adjuvants or feeding stimulants (no molasses!)
5. Application at the right time ensures best possible population reduction

Conclusion

In summary, growers are fortunate to have access to an arsenal of potential products to reduce FCM pressure through the season. From pheromones and sterile moths for mating disruption to virus products, entomopathogenic fungi and traditional pesticides; the choice can be overwhelming. The truth is, there is no one silver bullet when it comes to successful FCM management.

An integrated approach that combines the benefits of all these products, as well as cultural practices, is important, if not essential to managing populations for years to come. Mating disruption is the traditional early season approach to reduce egg laying and thereby reduce subsequent pest population thresholds.

As described above, the virus product is also recommended early in the season. This often begs the question, why is it necessary to use both early on? The virus as a result is pushed later in the season to crisis manage populations and this is not the ideal approach. No one product or method can be considered to be 100% effective. Moths that miss the effects of mating disruption still lay eggs in the orchard, the resulting larvae, if not appropriately controlled go on to cause damage and if not managed add to the second and third generations of the season. A virus application timed 7-10 days after the 1st moth peak with mating disruption gives you the best opportunity to limit damage and manage later season damage and population explosion.

Following a holistic approach through the rest of the season with orchard sanitation, further Cryptex® applications incorporating insecticides and bioinsecticides like Eco-Bb towards the end of the season creates a holistic approach that keeps FCM thresholds low, manages resistance and leaves little to no residues.

Cryptex® contains *Cryptophlebia / Thaumatotibia leucotreta* Granulovirus (CrleGV). Reg. No. PCPB(CR)1969. Andermatt Kenya Ltd, Two Lakes Business Park, Naivasha. Contact Stephen Musyoka, Tel. +254 722 888 377, Email: stephen.musyoka@anderlatt.co.ke / info@anderlatt.co.ke



Isabelle Spindler and Disha Copreaux the new CEO of Red Lands Roses.

Red Lands Roses: From queen to queen:

Red Lands Roses new CEO's plans to enhance flower farm's productivity after buyout.

By Brian Okinda

In the outskirts of Ruiru, a small township roughly 35 kilometers north-east of Nairobi, one flower farm has set itself apart as a seasoned producer of spray and garden roses for the luxury market, in a niche model pioneered by one of the few women within the largely male-dominated flower sector.

Established in 1996 by agronomist Isabelle Spindler, Red Lands Roses is an internationally reputed flower farm due to its green horticultural practices which have high regard for people -its employees and the community- and the environment. It runs its operations on a 28-hectare piece of land that is divided into a 20-hectare portion, and adjacently, another eight-hectare piece.

This flower farm has, by and large, been acknowledged globally as a leader especially in the production

of spray roses, with a production of up to 16 million stems per year, of the fresh-cut flowers. It sells exclusively to wholesalers -predominantly delivering to markets in Russia, and Eastern and Central Europe among others.

Red Lands Roses, which sits at an altitude of approximately 1,565 meters above sea level, specializes in the production of up to 200 varieties of premium fresh-cut roses. Their flowers have the reputation of having fuller heads, longer stems, and a desirable vase-life of between 12 and 21 days. These are qualities that ensure that the flower farm not only provides value for the targeted premium flower markets but also, generally assures of a lower carbon emission profile.

In mid October 2021, Adenia Partners, a private equity (PE) firm investing in Africa, acquired a majority stake

in Altilands SA, the parent company of Red Lands Roses, meaning Adenia Partners now run the operations of the flower farm. This is after more than 25 years that it had remained a family-run business under the Spindlers.

The private equity firm, according to a communicate from them, invested in the flower farm due to its strong reputation for high-quality roses and its advanced farming practices. Red Lands Roses is, in fact, one of the first farms in East Africa to deploy 100 percent hydroponic farming by using pumice in its greenhouses. It also fully recycles the water it uses in its everyday operations across the farm.

Adenia's interest was also inspired by Red Lands Roses' strong pricing power which is driven by the flower farm's direct route-to-market model that avoids the auction system where most of Kenya's fresh-cut roses are sold.

The change of guard meant that Disha Copreaux was recently appointed CEO. She explains that her background which largely revolved around agriculture, her prerequisite management qualifications and the fact that, being a local person, she knows the country's agriculture landscape very well, played a key role in landing her the position in which she serves as the company's manager.

Her family and upbringing also played a pivotal role in motivating her interest in agriculture – her father was a small commodities aggregator and trader, while her uncle also had interests in the agriculture industry.

Born in Nairobi and, for most part, bred in Tanzania, Ms Copreaux who describes herself as a third-generation, returning Kenyan has experience in the management of large-scale commercial farms. She also has had years of experience in strategy work with Syngenta Switzerland and agrochemical supply in Syngenta UK, among others.

Under Ms Copreaux's leadership, Adenia Partners now joins forces with Red Lands Roses' management to accelerate the expansion of the flower firm's production and capacity. This, the farm seeks to achieve through cultivation of an additional, at least, 20 hectares of land, to enhance their production. The increased capacity will be readily absorbed by the existing customers as well as new ones across the globe.

The flower farm is consequently expected to see a growth in the number of staff from the current roughly 500 to about 750 in the next two years. A significant number of these will be women.

To maintain – and even better – the flower farm's production and flower quality, Ms Copreaux has in mind a set of strategies which, with the help of the company's other managers, she intends to put into action.

"Ms Spindler is widely recognized as a pioneer in the country's flower industry. What I'm inheriting from her is her innovative mindset which I can now continue working with, to make the farm even better," Ms Copreaux said during our interview.



Flower farm employees pack the processed flowers at Red Lands Roses in Ruiru, Kiambu County.

The firm, she noted, is recognized for its delivery of high quality roses that have minimal imperfections and a long vase-life. And this is, by and large, what customers are happy about.

According to her, listening to the customers and having her finger on the pulse of what they need, as well as knowing how they feel about the company and its products are crucial factors for the company's sustainability.

"If I need to be able to continue making my customers happy, then these will form my starting point. If my customers aren't happy, I'll need to go back wherever along the value chain, and diagnose the problem then fix it. Without my customers, I don't have a business," she said.

To ensure that the company soars to even greater heights, she affirms that good planning and striving to achieve the set production budgets and targets, and having a clear vision of where they want to take the company, as well as addressing any emergent problem in a structured way, remain essential.

"In the long-term our goal is to grow the flower farm by at least 16 percent. However, this year, we intend to grow it by, perhaps, seven hectares, while ensuring that we maintain the markets for our products. I'll also see to it that I'm constantly innovating particularly in all aspects of our supply chain, and furthermore, inculcating a mindset of doing things better among flower farm's team members," she maintained.

Her thoughts on the country's flower sector are that it currently undergoes quite some challenges especially since the onset of the Covid-19 pandemic. Most notably, she noted, the freight capacity and rates haven't quite recovered since the pandemic struck; they have remained quite unfriendly for exporters. The costs of inputs also continue going up, and further to these, the ongoing Russia-Ukraine conflict continues to cause some uncertainty which adversely affects flower markets.

Despite the Adenia Partners' buyout, Red Lands Roses' Managing Director, Ms Spindler together with her husband Aldric Spindler, remain as the Executive Directors of the flower farm playing key roles in its expansion.

Status of Kenya's horticulture industry

The good, the bad and the ugly

Kenya's horticulture industry has continued to grow by leaps and bounds. Just early this year, the country was allowed to export fresh avocados to China, after satisfying a number of requirements. And more markets are emerging. Despite the apparent challenges therein, Fresh Produce Consortium of Kenya (FPCK) CEO Okisegere Ojepat, says the horticulture sector, and in particular the avocado industry is on a growth trajectory. He spoke to Horti News' Anita Nkirote on the state of Kenya's avocado industry.

By Anita Nkirote

What is the current status of Kenya's horticulture industry?

Okisegere Ojepat: We are in a good place because of the structures put in place. For instance, it is mandatory for export producers to belong to an association. This enables us to guarantee accountability and standards, and eliminate noncompliance. We have demystified the previous hurdles of being an exporter; and today anyone can export. The turnaround for licensing exporters has been eased through digitization and now takes about two weeks only.

As an industry, we have formed the Horticulture Taskforce through which we coordinate communication from the Government and private sector, hosted under the Ministry of Agriculture. Through this taskforce which is headed by the private sector, we are able to discuss the industry's issues.

We have also opened up new avocado markets in China, India, Malaysia, South Korea, and South Africa, and additionally have our mangoes return to the European Union (EU) markets.

On the downside, the country's horticulture industry continues to be bedeviled by a myriad of challenges. Such include the cost of production, which is continually going up. Freight costs are also a major challenge that hampers the sector. In addition, pests and diseases continue to pose a threat. The False Codling Moth (FCM) for instance, is perhaps the biggest pest challenge that affects the sector.



In addition to these, Kenya has a reduced export menu in terms of crop protection. The EU has enhanced its risk assessment and now no longer only focusses on maximum residue levels (MRL) but rather on the detection of residue. In this regard, the array of pest control products we have is gradually reducing.

Further to these, there has been a lot of negative publicity around pesticides. Anti-pesticide crusaders have sustained their assault on pesticide use claiming that they cause cancers; but with no proof whereof. Part of the political-class has joined the bandwagon calling for the removal of some of the molecules used in these pesticides from the market. While these institutions advocate for the adoption of organic farming, this model is not entirely practical.

Furthermore, the issue of climate-change continues to pose a challenge as it means that pests are adapting differently to changes in climate.

Has the Government fully engaged the private sector in Kenya's horticulture industry development?

Okisegere Ojepat: To some extent, the Government hasn't comprehensively involved the private sector. For instance, in the signing of some of its negotiations, such as the South Korea broccoli deal yet Kenya does not produce sufficient broccoli. A product like sweet potato, for example, would have been apt.

What can you say about the diversity of Kenya's export menu?

Okisegere Ojepat: Kenya's export menu is quiet limited. We largely focus on flowers, French beans, peas and most recently avocado and mango. The country has reduced its exports of vegetables such as chilies. In the same breathe; Kenya has not been producing the required varieties, especially, when it comes to mangoes. The preferred variety is the Alphonso variety yet our focus has been other

varieties like the apple mangoes which are not in demand. We need to diversify instead of relying on 2-3 decade old varieties.

What would you say is the reason for this limited export menu?

Okisegere Ojepat: The country is not communicating effectively with regards to the trends in the industry. Our communication strategy with the rest of the world is not working. There is a disconnect in communication between the involved stakeholders' and the institutions mandated with the same. Real-time information is also lacking, there is no data-driven communication on production, and hence market and seasons hardly work in tandem. We consequently seem to lag behind in terms of knowing which varieties are in demand and which ones are not. A notable result is that the country is not well captured in the world calendar, and this means that global markets are oftentimes unsure of when to expect our horticulture (avocado) produce.

How do we ensure the growth of our horticulture industry?

Okisegere Ojepat: We need to improve our branding, packaging, communication and sustainability. Our branding isn't among the most appealing; nothing has changed about it for ages. This needs to be addressed. The same case applies to our packaging which isn't in concurrence with the modern packaging trends across the global markets. Kenya must upgrade its branding and packaging standards. Similarly, we must be deliberate in ensuring that the quality we supply –for instance the avocado we export to the Chinese market- is of the optimal quality. The future of our business in this case relies on the consistency of our supply, the quality and post-harvest handling. Exporters must deliver what is required, and at the right time.

Tell us about the China exports market. Why was it that we initially were required to export frozen avocados and what changed?

Okisegere Ojepat: It began in 2018, when together with the PS Trade, PS Agriculture and the Kenya Plant Health Inspectorate Services (KEPHIS), we, as the industry, sought to have the Chinese inspect our avocados for qualification for their market. The then Trade PS, Dr Chris Kiptoo released Sh2million through Kenya Exports Promotion and Branding Agency (KEPROBA) to facilitate the Chinese's inspection processes. However, for some reason, the farm they visited showed signs of fruit fly infestation, which necessitated that we only export frozen avocados.

However, early this year, after more engagements and negotiations with the Chinese market, Kenya was allowed to export fresh avocados under strict regulations and several other demands were put in place including that they be pest-free and comply with the Chinese markets phytosanitary regulations. Currently companies exporting fresh avocados are Kakuzi, Keitt and Sunripe.

What are the future prospects of the avocado industry in Kenya?

Okisegere Ojepat: Avocado is here to stay! We need to look at this industry as an enterprise that is burgeoning. Kenya has the perfect and most ideal weather conditions meaning that avocado production runs throughout the year. We have right soils for the crop's farming and only have to feed these soils with the right nutrients. Furthermore, avocado comes with a myriad other uses –apart from nutrition- including industrial purposes (processing), and agroforestry (enhancing our tree-cover).

We only have to ensure that we have the right and quality seedlings as required by the markets, we practice proper orchard management, ensure we follow due diligence and work with extension services.



Kenya flower farms

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	EMAIL ADDRESS
AAA Flowers Rumuruti	Roses	Rumuruti	Shailesh	0722 203750	shailesh.rai@aaagrowers.co.ke
AAA- Flowers -Chui Farm	Roses	Timau	Shailesh	0722 203750	shailesh.rai@aaagrowers.co.ke
Africala	Cuttings	Eldoret	Meindert		meindert@africalla.com
Africa Blooms	Roses	Salagaa	Ravindra Chaudhari	0723159076	ravindra.chaudhari@xflora.net
Aquila Development	Roses	Naivasha	Abhay Marathe	0729776656	gm@aquilaflowers.com
Baraka Farm	Roses	Nyandarua	Lawrence Mwangi	0708131814	production@barakaroses.com
Batian Flowers	Roses	Timau		020 2047462	info@batianflowers.com
BeautyLine Ltd	Cut Flowers	Naivasha	Peter Gathiaka	0722676925	peter@beautyli.com
Benev flora Ltd	Hypericum				
Bila Shaka Flowers	Roses	Naivasha	Joost Zuurbier	0722204489	bilashaka.flowers@zuurbier.com
Black Petals Limited	Roses, germain,	Limuru	Nirzar Jundre	0722848560	nj@blackpetals.co.ke
Blooming Africa Limited	Hydrangea,	Gilgil		712227909	admin@blooming-innovations.com
Bloomingdale Roses (K) Ltd	Roses	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Bloom Valley Ltd	Roses	Salgaa	Ramnath Sarbande	0780314387	ramnath.sarbande@xflora.net
Carzan Flowers (K) KS-farm	Fowers	Salgaa	Mahesh		Seb.chamber@carzankenya.com
Credible Blooms Flowers	Flowers	Rumuruti	Eliud Njenga	0722382859	eliud@pigeonblooms.com
Dale Flora	Roses	Mogotio	Ajay Sutar	0711102266	ajay.sutar24@gmail.com
Desire Flowers	Flowers	Isinya	Rajat Chaohan	0724264653	rajatchaohan@hotmail.com
De ruiters Breeder	Roses	Naivasha	Fred Okinda	0722579204	Fred.okinda@deruiter.com
Dummen	Breeders	Naivasha	Steve Outram	0733 609863	s.outram@dummenorange.com
Elbur flora- kimman	Roses	Nakuru	Daniel Moge	0721734104	kimmanexp@gmail.com
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Credible Blooms	Flowers	Rumuruti	Eliud Njenga	0722382859	eliud@pigeonblooms.com
Equinox	Flowers	Nanyuki	Harry Kruger	0707266956	harry@equinoxflowers.com
Everest Flowers Ltd	Flowers	Mt. Kenya	Peter Njagi		
Everflora Ltd	Flowers	Thika	Bipin Patel	0735873798	everflora@dmbgroup.com
Peninah	Roses	Athiriver	Dan	0734626942	dan@exoticfields.com
Fairy Flowers F	lowers	Limuru	Sylvester	0753444237	sylvesterkahoro@yahoo.com
Fides Kenya Ltd	Cuttings	Embu	Bernard Marindany	0726 366 752	B.Marindany@DummenOrange.com
Finlays -Tarakwet	Flowers	Kericho	Lelon Chepkwony --		
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	Japheth Langat	0722 863527	japheth.langat@finlays.co.ke
Fontana Ltd-Salgaa	Roses	Salgaa	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd - Akina	Roses	Njoro	Mahindra Patil	0798254199 --	
Fontana Ltd - Ayana	Roses	Mau Narok	Gideon Maina	0721 178974	gideon@fontana.co.ke
Flamingo Holdings	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@flamingo.net
Flamingo Holdings-Kingfisher flamingo.net	Flowers	Naivasha	Isaac Karanja		0720473502 kingfishercarnations@
Flamingo Holdings- Kingfisher go.net	Flowers	Naivasha	Jacob Wanyonyi		0722773560 jacob.wanyonyi@flamin-
Flamingo Holdings-Siraji	Roses	Nanyuki	Peris Muturi		
Flower City	Flowers	Nairobi	Pradeep Kumar	0790309600	info@flowercitykenyaltd.com



Kenya flower farms

Flamingo Flora	Roses	Njoro	Sam Nyoro	0721993857	s.ivor@flamingoflora.co.ke
Flora ola	Roses	Solai-Nakuru	Lucas Choi	0721832710	lucas.floraola@gmail.com
Flora Deligh	Flowers	Limuru	Marco	0710802065	marcovansandijk@yahoo.com
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke
Florenza Flowers	Roses	Solai	Yogesh	0737453768	florenza@megaspingroup.com
Fresh Gold Flowers Ltd	Flowers	Mt. Kenya	John Karimi	0721622294	karimi@freshgolgkenya.co.ke
Gatoka Roses	Roses	Thika Herman	Njuguna	0728 854 844	info@gatokaflowers.com
Golden Tulip	Roses	Olkalao	Umesh Choudhery	0739729658	umesh@bth.co.ke
Groove	Flowers	Naivasha	John Ngoni	0724448601	grovekenya@gmail.com
Harvest / Manjo Plants	Roses	Olkalao	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Harvest Ltd	Roses	Athiriver	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Harvest Flowers Group	Roses	Murungaru	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Imani Flowers	Flowers	Nakuru	Raphael Otieno	0792302466	raphael@imaniflowers.co.ke
Interplant Roses	Roses	Naivasha	Gavin Mouritzen	0733220333	info@interplantea.co.ke
Isinya Flowers	Flowers	Isinya	Rajesh		pm@isinyaroses.com
Jim Fresh	Flowers	Nairobi	Dan Agawo	0722 894 822	danagawo@mbogatuu.com
Karen Roses	Roses	Nairobi	Peter Mutinda	0723353414	pmutinda@karenroses.com
Kariki Ltd-	Flowers	Thika	Samwel Kamau	0723721748	production@kariki.co.ke
Kariki Ltd	Eryngiums	Nanyuki	Richard Fernandes	062-31023/6	bondet.production@karik.biz
Kariki Ltd	Hypericum	Naivasha	Peter Kamwaro	0721758644	hamwe.fm@kariki.biz
Kariki Ltd	Fowers	Molo	Joseph Juma	0725643942	production.fm@kudenga.co.ke
Kenflora Limited	Roses	Limuru	Abdul Aleem	0722311468	info@kenflora.com
Kentalya	Cuttings	Naivasha	Linnet	0733549773	lynette@kentalya.com
KHE	Flowers	Nanyuki	Elijah Mutiso	0722254757	mutiso@khekenya.com
Kisima Farm	Roses	Timau	Martin Dyer	0722593911	martin@kisima.co.ke
Kongoni River Farm	Roses	Naivasha	Anand Patil	0728608785	anand.patil@vegpro-group.com
Kongoni River Farm	Flowers	Nanyuki	Madhav Lengare	0722202342	madhav@vegpro-group.com
Kongoni River Farm	Flowers	Naivasha	Prabakaran	0739906040	prabakaran@vegpro-group.com
Kongoni River Farm	Flowers	Timau	Oppaso Bandgar	07120070053	oppasobandgar@vegpro-group.com
Kongoni River Farm	Flowers	Timau	Rakesh Kuttaiah	0724631299	rakesh.kuttaiah@vegpro-group.com
Kongoni- Galaxy	Roses	Naivasha	Kiran Nangare	0787787544	kiran@vegpro-group.com
Lamorna Ltd	Roses	Naivasha	Mureithi	0722238474	admin@lamornaflowers.com
Lathyflora	Roses	Limuru	Mbauni Mbauni John		0721798710 mbaunij@yahoo.com
Lauren International	Flowers	Thika	Chris Ogutu/Carlos	0722783598	laurenflowers@accesskenya.co.ke
Laurel Investment	Roses	Nakuru	Rajendra Jadhav	0738359459	rajendra.laurel@bht.co.ke
Livewire	Hypericum	Naivasha	Esau Onyango	0728606878	management@livewire.co.ke
Lobelia Ltd/ Sunland	Roses	Timau	Peter Viljoen	0721632877	info@lobelia.co.ke
Lolomarik	Roses	Nanyuki	Topper Murry	0715 727991	topper@lolomarik.com
Magana Roses	Roses	Nairobi	Nicholas Ambanya	0732 779 987	ceo@maganaflowers.com
Mahee Flowers	Roses	Olkalao	Rao Venkatesh	0705401431	maheefm@eaga.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflowers.com
Maua Agritech	Flowers	Isinya	Madan Chavan	0738669799	production@mauaagritech.com



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Mau Flora	Roses	Molo	Mahesh	0787765684	mahesh@mauflora.co.ke
Milenium Growers	Flowers		Sushant Wankara	0731316000	sushant@marvelgreens.com
Molo Greens	Flowers	Molo	Justus Metho	0722 755396	justus@mologreens.com
Mt. Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395	bob@mtelgon.com
Mwanzi Flowers Ltd	Roses	Rumuruti	Ram	0722265845	
Mzuurie Flowers	Flowers	Eldoret	Mark Juma	0727471034	mjuma@majimazuri.co.ke
Mzuurie Flowers	Flowers	Kilelwa	Andrew Wambua	0724256592	awambua@moloriverroses.co.ke
Mzuurie Flowers	Flowers	Karen	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
Ol Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Oserian Flowers	Flowers	Naivasha	Christine Karambu	0702350689	christine.karambu@oserial.com
Panda Flowers	Roses	Naivasha	Geoffrey Kanyari		
Panocol International co.ke	Roses	Eldoret	Paul Wekesa		0722748298 paul.wekesa@panocal. co.ke
Penta Flowers	Flowers	Thika	Tom Ochieng	0723904006	@pentaflowers.co.ke
Pendekeza	Roses	Nanyuki	Richard Siele	0722716158	tambuzi.sales@tambuzi.co.ke
PJ Dave	Flowers	Isinya	Sanjiv Dogra	0737576966	pjdaveflowers@wananchi.com
PJ Flora	Flowers	Isinya	Palani Muthiah	0752607651	muthiah.palani1971@gmail.com
PJ Flowers Ltd	Roses	Isinya	Sanjiv	0737576966	sanjiv@pjdave.com
PJ Flora Roses	Roses		Santos Kulkarni	0738990521	santosh@pjdave.com
Kentalya Cuttings					
Porini Flowers	Roses	Molo	Vivek Sharma	0731040498	gm@poriniflowers.com
Primarosa Flowers Ltd com	Roses	Olojororok	Shantaram	0701464049	production.p2@primarosaflovers. com
Rain Forest Farmlands Ltd		Roses	Naivasha Mr. George Onguko		0725762099 george@durofarms.com
Ravine Roses	Flowers	Nakuru	Peter Kamuren	0722205657	pkamuren@karenroses.com
Redhil Nurseries		Nairobi	Collins Omuga	0722 598 498	production@red-hill.farm
Redland Roses	Roses	Thika	Aldric Spindler	0733603572	aldric@redlandsroses.co.ke
Redwing Flowers	Flowers	Nakuru	Simon Sayer	0722227278	sayer@redwingltd.co.ke
Rift Valley Roses (K) Ltd	Roses	Naivasha	Peterson Muchuri	0716589898	m@riftvalleyroses.co.ke
Rimiflora Ltd	Hypericum	Njoro	Richard Mutua	0722357678	richard@rimiflora.com
Riverdale Blooms Ltd	Roses	Thika	Antony Mutugi	0202095901	rdale@swiftkenya.com
Roseto	Roses	Roseto	Arvind	0734848560	gm.roseto@megaspingroup.com
Rozzika Gardens	Roses	Naivasha	Mbuthia	0721849045	jwachiram@yahoo.com
Savannah international	Geranium	Naivasha	Ignatius lukulu	0728424902	i.lukulu@savanna-international.com
Selecta Kenya		Thika	Robert Khamala	0727 467 464	r.khamala@selectakenya.com
Solai Roses	Roses				
Sojanmi Spring Fields	Roses	Njoro	Ashesh Mishra	0792217088	ashesh@xflora.net
Schreus	Roses	Naivasha	Haiko Backer		
Shades Horticulture		Isinya	Ashutosh Mishra	0722972018	info@shadeshorticulture.com
Shalimar	Flowers	Naivasha	Dinka		
Sian Roses - Maasai	Roses	Isinya	Andrew Tubei	0722728364	atubei@sianroses.co.ke



Kenya flower farms

Sian Roses - Agriflora (K) Ltd	Roses	Nakuru	Charles Mulemba		cmulemba@sianroses.co.ke
Sian Roses - Equator	Roses	Nakuru	Nehemiah Kangogo	0725848910	nkangogo@sianroses.co.ke
Sierra flora	Roses	Njoro	Sharieff	0787243952	farm.sierra@megaspingroup.com
Simbi	Roses	Thika	Karue Jefferson	067 44292	simbi@sansora.co.ke
Sirgoek Flowers	Flowers	Eldoret	Andrew Keittany	0725 946429	sirgoek@africaonline.co.ke
Solai Milmet/Tindress	Flowers	Nakuru	Vinoj J. Kumar	0737801646	solairoses@gmail.com
Subati Flowers	Roses	Subukia	Naren Patel	0712 584124	naren@subatiflowers.com
Subati Flowers	Roses	Naivasha	Naren Patel	0712 584124	@subatiflowers.com
Suera Flowers Ltd	Roses	Nyahururu	George Kimathi	0724622638	gkbuuri@gmail.com
Sunland Timau Flair	Roses	Timau	Peter Viljoen	0723383736	info@lobelia.co.ke
Stockman rozen	Roses	Naivasha	Julius muchiri	0708220408	julius@srk.co.ke
Syngenta Flowers - Kenya	Cuttings	Ruiru	James Ouma	0725217284	john.odhiambo@syngenta.com
Syngenta Flowers - Kenya	Cuttings	Thika	Kavosi Philip	0721225540	philip.munyoki@syngenta.com
Syngenta	Flowers	Thika	Joseph Ayieko	0733552500	joseph.ayieko@syngenta.com
Tambuzi	Roses	Nanyuki	Richard Siele	0722716158	tambuzi.sales@tambuzi.co.ke
Timaflo Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflo.com
Transebel	Flowers	Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke
Tulaga	Roses	Naivasha	Steve Alai	0722659280	tulagaflower@africaonline.co.ke
Tulaga	Flowers	Rumuruti	Gideon Kariuki	0701153844	tulagamarmarmanet@africaonline.co.ke
Tk Farm	Flowers	Nakuru	Gichuki	0721499043	davidgichuki20@yahoo.com
Uhuru Flowers	Flowers	Nanyuki	Ivan Freeman	0713889574	ivan@uhuruflowers.co.ke
Utee Estate	Flowers	Nairobi	Mane	0737 513 844	mane.uel@btfgroup.com
United Selections ed-selections.com	Roses	Nakuru	Jeroen Van Marrewijk		0700176556 jvanmarrewijk@unit-
V.D.Berg Roses	Roses	Naivasha	Johan Remeeus	0721868312	johan@roseskenya.com
Valentine Ltd com	Roses	Limuru	Joseph Kariuki	0728 093 379	joseph.kariuki@valentinegrowers.
Van Kleef Ltd	Roses	Njoro	Rathan	0787266007	rathan@vankleef.nl
WAC International	Breeder	Naivasha	Richard Mc Gonnell	0722810968	richard@wac-international.com
Waridi Ltd -	Flowers	Athiriver	Cameron	0722 745 478	cameron@waridifarm.com
Wilham Kabuku	Flowers	Nairobi	Natarajan	0735 792 063	natarajan@eaga.co.ke
Wildfire Roses	Fowers	Naivasha	Eliud Kimani	0727598349	roses@wildfire-flowers.com
Wilfay	hypericum	Subukia	Makori	0723358644	makoriwilfay@gmail.com
Wilmar Agro Ltd	Flowers	Thika	Alice Muiruri	0722 321203	alice.muiruri@wilmar.co.ke
Windsor	Flowers	Thika	Pradeep Bodumalla	0736 586 059	farm@windsor-flowers.com
Xpressions Flora	Roses	Njoro	Brijesh Patel	0715469732	brijesh.patel@xflora.net
Zena -Thika Farm	Roses	Thika	John Magara		-- sales@zenaroses.co.ke
Zena - Asai Farm	Roses	Eldoret	Phanuel Ochunga	0722506026	pochunga@zenaroses.com
Zena	Roses-	Sosiani	Jackson		

TANZANIA FLOWER FARMS

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	EMAIL ADDRESS
Kili flora	Roses	Arusha	Jerome Bruins	255 27-25536 33	jbruins@habari.co.tz
Mt. Meru	Roses	Arusha	Tretter	255 27 2553385	flowers.com
Tengeru Flowers	Roses	Arusha	Tretter	255 27 255 3834	teflo@africaonline.co.tz
Multi flower Ltd	Crysenhemums	Arusha	Tjerk Scheltema	255 27 250 1990	tjerk@arushacutting.com
Dekker Bruins	Crysenhemums	Arusha	Lucas Gerit	255 27 255 3138	info@tfl.co.tz
Arusha cuttings	Crysenhemums	Arusha	Tjerk Scheltema	255 27 250 1990	tjerk@arushacutting.com

ETHIOPIA FLOWER FARMS

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	EMAIL ADDRESS
Abssinia flowers	Cuttings	Legedadi	Toon Van Kessel	+251 116653911	tvankessel@yahoo.com
Addisfloracom PLC	Roses	Holeta	Kitema Mihret	+251 912 264190	tasfaw@addisflora.com
Afriflowers PLC	Folwers	Holeta	Mauricio Castillo	+251 937977849	topigs@grepodelago.com
Agriflora	Roses	Holeta	-	+251 922 397760	flowers@ethionet.et
Alliance Flowers PLC	Roses	Holeta	Navale	+251 116184341	navele@nehainternational.com
Arsi Agricultural Mecahanization	Roses	Holeta	-	-	arsiflower@ethionet.et
Assela Flowers Farm PLC	Cut Flowers	Wolliso	Friedrich Wilhelm	+251 911431417	info@asellaflowers.com
AQ Roses PLC	Roses	Ziway	Frank Ammerlaan	+251 464414277	frank@aqroses.com
Beti Ornamentals	Cut Flowers	Debre Zeit	Henock Zerihun	+251 116521211	betiornamentaldz@gmail.com
Bukito Flowers	Roses	Debra Zyeit	Anteneh Tesfaye	+251 911 615571	-
Braam Flowers PLC	Roses	Ziway	Ben Braam	+251 464413137	braam.roses@gmail.coings
Desa Plants PLC	Cuttings	Mojo-Ejersa	Ben Depraeter	+251 116569195	ben@desaplants.com
Dire Highlands Flowers PLC	Roses	Holeta	Seifu Bedada	+251 113870308	dhf@ethionet.et
Dire flowers 2	Roses	Sebeta	Abenet Fiktu	+251 911 149 329	abifiktu@yahoo.com
Dugda Floriculture Dev't PLC	Roses	Debre Zeit	Adugna Bekele	+251 4336142/43	general@dugdafaflora.com
Ethio dream PLC	Roses	Holeta	Jan Prins	+251 11 2372334/35	ethiodream@ethionet.et
Ethio Agri- CEFT	Roses	Welmera	Asfaw Kejela	+251 112372415/18	ethioagriceft@ethionet.et
Enyi Ethio Roses	Roses	Sebeta	Endale Yirga	+251 113482143	enyi@ethionet.et
Eden Roses	Roses	Sebeta	Vaibhav Aggarwal	+251 8959343	vaibhav@edenroses.com
Ethio passion Agro PLC/Oda	Roses	Sebeta	Roshan Muthappa	+251 111561572/73	ethiopassion@ethiopassion.com
ET Highland Flora PLC	Roses	Sebeta	Tsegaye Abebe	+251 113383710	bnfzetf@ethionet.et
Euro Flora PLC	Roses	Holeta	Shiranda Pia	+251 118602075	euroflora@gmail.com
Evergreen Farm	Roses	Debra zyeit	Hiwot	+251 912 18 5065	Hiwot.Ayaneh@yahoo.com
Ewf Flowers	Hydragiums	Sebeta	Humphrey	+251 920 35 1931	production-manager@Ewf-flowers.com
Ethiopia Cuttings PLC	Cuttings	Koka	Sunil Hemdev	+251 224590151-55	akalu.ermias@syngenta.com
Ethiopia Magical Farm	Cuttings	Sendafa	Daniel Bentora	+251 118606534	emf@ethionet.et
Freesia Ethiopia PLC	Flowers	Sebeta	Ronald Vijverberg	+251 118101018	freesia@ethionet.et

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