JUNE 2016

HortiNews

Growing Ideas

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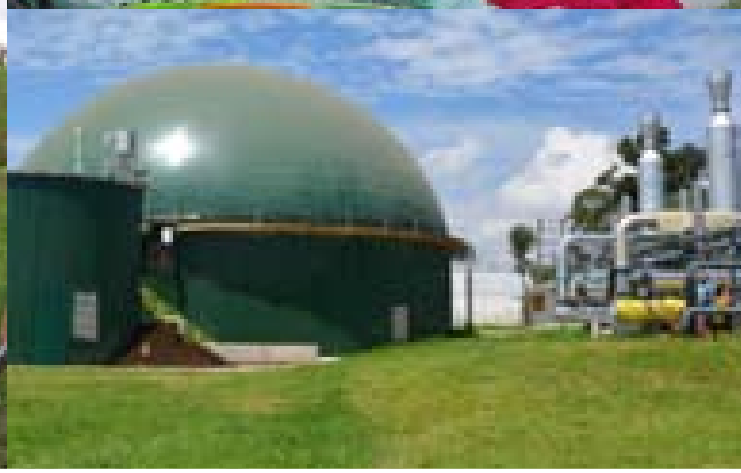

Special Edition: Kenya Flower Council 20th Anniversary

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Message from Kenya Flower Council CEO Jane Ngige

The Kenya Flower Council celebrates its 20th anniversary at a very interesting time. One of the major challenges the industry grappled with for years was a credible means of communicating to stakeholders that growers were committed to growing flowers responsibly, as depicted by the industry theme since 1996.

At a personal level I am still trying to digest the ranking of our Silver Standard high in the global barometer following a recent standards mapping exercise by the International Trade Center (ITC) and benchmarking to the Global Social Compliance Program (GSCP) – the highest benchmark for social accountability among seven major flower industry standards, in which ours towered above the rest in all aspects under consideration.

We scored above everyone else on environmental, social, management quality and ethics meaning the council standard would be the first point of call for markets looking for the best rated standard while on single items we stood points above all other internationally recognized standards.

The joy of this development is well understood by our growers who periodically undergo rigorous compliance audits resulting in market acceptability of the country's flowers. It also comes in the wake of the revision of the KS1758, the National Standard that governs Ornamentals and Cut Flowers that was launched last year.

KS1758 ushered in a new era in flower production business as it sets the bar expected of the value chain to be followed by all growers before they are issued with an export license. We are working with flower producing counties and the State Department of Agriculture to build the requisite capacity for a national mechanism for compliance and traceability framework to bring all growers and service providers under the standards ambit.

Secondly, if current international statistics are anything to go by, Kenya is now the second largest flower business country after Ecuador up from number four last year. In terms of earnings we are very close and all indications are we could tilt the scales in the not too distant future.

These two remarkable developments point towards the need to establish a Brand Kenya produce that drives the already acknowledged quality of flowers known and respected globally.

After being at the helm of the Kenya Flower Council for 10 years, it is pleasing to have walked this journey of i ndustry 'maturity' in terms of expansion to the main focus now which is sustainability and markets access.

The challenge now is to draw strategies to strengthen and support growers and exporters further, to pursue initiatives that enhance and sustain competitiveness in line with the Kenya Vision 2030, with special attention to escalating cost of doing business related to the business environment. Further to draw on the strong networks established over the years, to secure, grow and sustain market access, beyond the current 60 destinations on record today. To all our growers the Council has seen you grow into global industry champions against many odds You must take the bull by the horns and let my very able team, chaperoned by an equally dedicated Board of Directors, and set new goals for the next decade. From where I sit, I see the area of innovation, knowledge management, Kenya flower brand development and promotion taking center stage.

Thank you our members for your unwavering support to the Council. The faith of members and industry partners will soar the sector to even greater heights.

God bless you all
info@kenyaflowercouncil.org

Message from Kenya Flower Council Chairman

Mr RIchard Fox Chairman Kenya Flower Council

I am delighted to be given the opportunity to introduce this special edition of Hortinews to celebrate the 20th anniversary of the Kenya Flower Council.

The late 1980's witnessed the emergence of Kenya as a key producer in the world floriculture market. From 1986, when exports stood at 8,500 tonnes, the industry expanded rapidly to 35,000 tonnes in 1996 and in 2015 stood at 122,000 tonnes. In the period 1996-2015, Kenya's total exports grew from $2.04 billion, with the contribution of flowers amounting to $95million, to $5.7 billion and a contribution of close to $700million. Over this time, the proportion of flower exports to total exports has grown from 5% to more than 12%. In terms of value, this is more than a six fold increase, demonstrating the significant support that the sector now provides to the national economy.

In 1996, when expansion of the sector was gaining momentum, the leading producers in Kenya recognised a need for the industry to adopt standards that were appropriate to the more intensive nature of floriculture production compared with conventional agricultural practice. This was the genesis of the Kenya Flower Council and its flagship Silver Standard.

The founder members identified four key objectives on which to establish the Kenya Flower Council

1. To foster responsible and safe production of cut flowers
2. To promote a safe working environment for all farm staff
3. To ensure the welfare of all workers in accordance with the Laws of Kenya
4. To grow flowers in a manner as to safeguard the environment

Through 20 years of the Kenya Flower Council and 11 revisions of the Silver Standard, it is a tribute to the foresight of the founding members to see a need then, for what is now an essential part of the regulatory structure of the international floriculture market today.

In the early years, farm audits were conducted by the CEO, but with growing membership and by 2000 it became necessary to establish an internal audit function. As certification standards began to proliferate worldwide, the Kenya Flower Council sought to benchmark itself with other standards with only limited success. The overriding constraint emerged as one of independence. To overcome this, the audit function was re-structured and third party accreditation by SANAS was achieved in 2008. Even then, more extensive benchmarking proved elusive.

In parallel with its audit function, the Kenya Flower Council has established itself as an essential industry conduit to the national Government and to international governments and markets dealing with regulatory and market access issues. In Kenya, this resulted in its leading participation in the revision of the national standard to ensure all producers in Kenya comply with acceptable standards of good agricultural practise, working conditions and worker welfare, and environmental protection.

Since 2007, the industry has grappled with the uncertainty of the trade agreement with the EU that currently accounts for 73% of flower exports from Kenya. The Kenya Flower Council, through its long association with Union Fleurs in Brussels, has lobbied tirelessly to encourage the parties to conclude negotiations. The industry has been well supported by the Kenya Government and has been assured that the process is close to finalisation.

In 2015, through the Floricultural Sustainability Initiative, a programme supported by IDH, the Silver Standard has finally been benchmarked against several of the leading international floriculture standards and the results are reported elsewhere in this publication. Needless to say the Kenya Flower Council is proud to report that the Silver Standard stands up to scrutiny with the best and has achieved the international recognition it has sought and deserves.

In conclusion, the past 20 years has witnessed many changes in Kenya, and through all these, the floriculture industry has grown from strength to strength. Today there are more than 100 Kenya Flower Council members representing close to 75% of flowers exported from Kenya. The recent initiatives and activities have highlighted the important role that the Kenya Flower Council plays in supporting the industry both nationally and internationally.

We look forward to the challenges of the next 20 years.


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Partners with Nature to Propel the Kenyan Flower Sector

By Charles Macharia

Anyone familiar with the Kenyan floriculture sector knows that it has truly come a long way. According to the together we can overcome short-term challenges facing the sector and explore an even greater future for the industry. As our mission statement affirms, we strive to contribute to better health of people and the planet. In partnership with nature, we will make (Kenyan) agriculture healthier, safer and more productive. Long live the Kenyan floriculture industry!

Kenya Flower Council (KFC), Kenya did not export flowers before 1970. Fast forward to 2016, Kenya is the largest exporter of cut flowers to the European Union, with an estimated market share of 38%. Further, Kenyan flowers are sold in many other parts of the world including Russia, Japan and USA. A lot of that growth has been experienced in the last two decades or so. Incidentally, it is for about the same duration that KFC has existed. KFC is the association of growers and exporters of cut-flowers and ornamentals, which aims at fostering responsible and safe production of cut flowers in Kenya with due consideration of workers welfare and protection of the environment.

The latter is important especially now as flower consumers are increasingly interested in knowing how the flowers the enjoy are grown. Needless to say, crop protection is an integral part of flower production. Over the last 10 or so years, Kenyan flower growers have been at the frontline in applying sustainable crop protection technologies on their farms. This includes biological control agents as a tool for Integrated Pest Management (IPM). This practice has enabled growers to reduce chemical pesticide usage on their farms and hence deliver to the market cut flowers with minimal pesticide loads.

As these growers also seek to comply with the various market &label requirements, codes and standards, certain growers have set for themselves even more ambitious targets. For example, some aim to match the maximum residue limits (MRL) that are set for vegetables. By doing so, such growers are not only meeting their current obligations, but are securing their future in the long term. Often, these sustainable growing practices also come along with direct benefits to the grower including increased productivity per unit area, and improved quality as measured by parameters such as stem length, desired bud size and longer shelf-life of cut flowers.

It is worthwhile to note that Koppert Kenya, a subsidiary of Koppert BV of the Netherlands, has been present and active in Kenya for the last 10 years. Over this period, the company has supplied Kenyan growers with appropriate tools to enable them grow more sustainably. Initially, Koppert supplied biological control agents in the form of Macrobials, that is beneficial macro-organisms that are used in crop protection. These include predatory mites and parasitoids. In layman's language, one could describe them as "good insects that control the destructive ones".Since then, Koppert expanded the range to include Microbials, that is beneficial micro-organisms; Botanicals, which are obtained from plant extracts; Associated products, such as sticky traps; and the NatuGro System, which is an acronym for Natural Growing that helps growers to grow resilient crops with greater returns.

As the Kenyan flower industry ventures into the future, Koppert endeavors to continue playing its part in order to support the industry to consolidate past successes. Furthermore,

The Kenya flower industry at a glance

By CATHERINE RIUNGU

The flower industry in Kenya is one of the most vibrant sub-sectors in agriculture and export trade and contributes 10 per cent GDP for agriculture. In year 2015 the industry earned Ksh 56 billion in foreign exchange from 125,000 tons, employs an estimated 90,000 people directly with another 500,000 through ancillary products and services in the value-chain and supports some 2 million livelihoods.

Conservative estimates put total investments in the flower industry at more than Ksh 50 billion. This data corroborates the importance of the flower industry in the country's economic development, a key contributor to foreign exchange earnings, employment creation, and alleviation of rural poverty, technology transfer and industrialization.

Flower farms in Kenya are arguably some of the most technologically sophisticated units, matching what is available in the world's developed economies, and from where farming technologies such as greenhouse farming, drip irrigation and hydroponics are now progressively moving to other crop production areas. Modern technologies for water harvesting, storage and usage; energy conservation and other green initiatives have been adopted by flower farms with amazing results as the sector sets the trend in minimizing resource use, reducing impact on the environment, hence the tag "grown under the sun". These initiatives go a long way in marketing the country's flowers as grown under a low carbon emission environment.

It is for this reason, for instance, that the sector scooped all awards in the National Farmers Awards 2013 and 2014, awarded by the Ministry of Agriculture in partnership with Elgon Kenya Limited in the large commercial farms category an indication that the industry is miles ahead in embracing agribusiness. The sector has since been given its own category on realization that it is a cut above the rest

The innovations and investment in water and energy initiatives addresses the negative long-held perception that flower industry depletes water resources and polluting the environment as depicted through negative publicity. The high and long term investment in the flower farm industry requires sustainable resource management, a key integral part in the investment and therefore the presumed malpractices in the production would jeopardize the investment. A grower in Naivasha asks, "A flower farm is a multi-million investment, and a long-term business expected to last 30 years. Why would a farmer apply malpractices that would jeopardize such a business?"

In 2014, the industry launched the Carbon Reduction, Resources and Opportunities Toolkit (CaRROT) to measure how much water and energy is used per production unit so as to collect data required to demonstrate that the

sector is a low carbon industry, and enhance market access and better prices.

In 2013, Hortinews magazine published articles on flower farm energy initiatives which were all nominated for the Energy Media Awards, while the efforts by flower farms in Naivasha to promote peace in the 2013 general election under the slogan Flowers for Peace won the inaugural Tuvuke Media Awards, as the best example of conflict sensitive reporting. The initiative was prompted by the 2007/08 post election violence that rocked Naivasha and other flower growing regions which led to losses estimated at Ksh 10 billion as farm operations were disrupted, as was transportation of flowers to the airport. The energy stories were titled; Solar Greenhouse opens in Naivasha, Growing Money on Sun energy and Save Green and Grow Profits.

The Kenya cut flower industry has about 150 registered flower farms, 100 are active exporters with two representative associations namely; The Kenya Flower Council and the Fresh Produce Exporters Association of Kenya (FPEAK).In Kenya, cut flowers are majorly grown in 14 counties namely; Nakuru, Kajiado, Meru, Kiambu, Nyandarua, Nyeri, Nairobi, Laikipia, Machakos, Embu, UasinGishu, Kericho, Trans Nzoia and Nandi.

Further the Council has grouped the flower growing areas into five broad regions which are Nairobi and its environs, Mount Kenya, greater Naivasha, Central and Rift Valley.

Kenya flowers are an international brand, with the country leading the world's top three exporters to the EU, which include Ecuador and Mexico. Kenya is among the four (Kenya, Ethiopia, Ecuador and Mexico) climatically best suited flower producing countries of the world which are astride the Equator.

The main cut flowers produced and exported by Kenya are roses (53.6%), Easter lilies (26.5%), Arabicum (4.1%) carnations (3.1%), and Hypericum (1.98%), while minor ones include, Gypsophilla, Lilies Eryngiums, Arabicum, Hypericum, Statice, and a range of summer flowers amongst many others.

Kenya is the leading flower producing nation in Africa and contributes 40 per cent of flowers sold in the EU making it a major contributor to the global markets.

The industry in Kenya is more of an export business, although there has been a push to encourage local consumption. Efforts have been concentrated on Valentine's Day with a considerable degree of success, and other important days like Mother's Day. Over the past three years, the Kenya Flower Council-led 'Soko la Maua" has been supporting vendors to display flowers where they are easily visible to encourage consumption.

Over the last two decades, the flower industry through its crusader the Kenya Flower Council has committed enormous efforts and resources to address the image of the industry as captured in the Kenyan standard Horticultural Industry Code of Practice (KS 1758), that has been revised to KS1758 Cut Flowers and Ornamentals to guide the production processes through the sector value chain.

Constructed wetland at Oserian Development Company

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Behind the success of the Council

- **Consistency of Purpose:** Right from the onset, the Kenya Flower Council invested in nurturing a responsible industry through a growers own code of practice which you have heard plenty about. It is founded on integrity, transparency and competence for sustainability.

- Rightly so, the Council has paid due attention to capacity building and extending capacity to produce responsibly to small scale growers initially with assistance from DFID. This portfolio has grown substantially. The Council is now working with about 300 small scale growers with assistance obtained from IDH through the Flower Sustainable Initiative (FSI). At the same time The Council has supported the local florist through a project "Soko la Maua" which has change the landscape of flower arrangement in Kenya. (Hotels, Offices, functions and domestic.

- Board of Directors: Over the last 20 years, the Board has sat 7 times a year on average and conducted 17 AGMs.

- **Commitment:** While the Council has benefitted from development funding over the last decade, the funding of the Secretariat and its core activities has been met by the Members' subscriptions .

- **Partnerships:** The Council has invested substantially in building invaluable partnerships locally and abroad, most of whom are represented here today (LNGG,AEA, KEPSA, KAM, KHRC, UNION FLEUR, THE Dutch, German, American and the British Governments and many others

- **Inclusiveness:** The Council has not left small scale growers behind; nor the florists, who often paint Nairobi red over the valentine's season. Neither have we left the boisterous industry youngsters behind. We in Kenya are lucky as the industry is growing younger rather than aging out and we are proud that the legacy of the founding members will live on for many, many years to come

Directors

1. Richard Fox
2. Hamish Ker
3. Morris Wahome
4. Hon. Dr. Erastus Mureithi
5. Nyakio Mwirigi
6. Jos van der Venne
7. Richard Fernandes
8. Cpt. Peter Szapary
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Alternate

Karen Rono
Neil Hellings
Anthony Wahome
Joseph Mureithi
Gathoni Mwirigi
Micah Cheserem
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Cloolua Ridge, Karen • P.O. Box 49592 00100 GPO Nairobi, Kenya •Tel: 020 6618000• 0709 891 000
E-mail:director@kephis.org • www.kephis.org

Kenya Plant Health Inspectorate Service (KEPHIS) is the parastatal whose mandate is to assure the quality of agricultural inputs and produce to promote food security and national growth. The Corporation does this through three key areas: seed certification and plant variety protection, phytosanitary (plant health) services and analyses of agricultural inputs.

We congratulate the Kenya Flower Council (KFC) on their 20 year anniversary and take cognizance of their enormous contribution to Kenya's economy. We note that flowers account for approximately half of the KES 100 billion that Kenya earns in foreign exchange yearly and this has been made possible largely through the exemplary work of the KFC management and staff.

KEPHIS works closely with KFC to ensure that Kenya's flowers to overseas markets meet the global requirements for export. The KEPHIS plant variety protection office also encourages ornamental breeders to introduce elite flower varieties desired by consumers. These are then grown by Kenyan farmers for export to specific niche markets and regions including the key European Union market.

We reiterate our commitment to work with KFC to move the flower industry to greater heights for the growth and development of Kenya.

For more information, please contact:
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Kenya Flower Council: About Us

The Kenya Flower Council is a voluntary association of independent growers and exporters of cut-flowers and ornamentals, established in 1996, with the aim of fostering responsible and safe production of cut flowers in Kenya with due consideration of workers welfare and protection of the environment.

Against this background the Council has become the focal point for industry representation, promotion, and compliance to pertinent local and international standards deemed necessary to secure, expand and sustain markets.

Membership

i. Producer Members – involved in the production of flowers & ornamentals. To date stands at 97 farms / firms.
ii. Associate Members – organizations that supply various products and services to the industry and are currently 71. This category attracts both local and international organizations.

Kenya Flower Council Membership includes small, medium and large flower growers spanning from 0.25 acres to 230 hectares, in line with our strategic plan to ensure an all-inclusive representation of the floriculture industry.

Lobbying and industry promotions

On behalf of Members, the Council liaises with governments, development agencies, media, trade bodies, unions, civil society, non-governmental organizations, partners, market organizations and other stakeholders on specific sector issues to create an enabling environment for the floriculture industry locally and abroad.

With cooperation and support of associate members and other partners, the Council organizes and participates in industry promotion events in Belgium, UK, Holland, USA, Italy, Japan, Germany, Korea, Russia, and France. The Council also participates in international flower fairs and promotions across Europe including Germany, Holland, Russia, Japan, Korea, Kenya and USA.

The Council has a solid engagement with the Government of Kenya through different Ministries including the Ministries of Foreign Affairs and International Trade, whereby KFC is represented in the Bilateral and Multilateral trade negotiations e.g. EU / East African communities (EAC) Economic Partnership Agreement (EPAs), AGOA, COMESA etc. KFC actively participates in the National Task Force for Horticulture as well as ministerial sector forums. Other Ministries in this network include the Ministries of National Treasury; Water, Irrigation and Natural Resources; Interior; Agriculture, Livestock and Fisheries; East African Affairs Commerce and Tourism and Labour and Social Security Services. We are also an active member of Kenya Private Sector Alliance (KEPSA), Kenya Association of Manufacturers, Federation of Kenya Employers (FKE) and Agricultural Employers Association (AEA).

At the international level, the Council networks with key partners and development stakeholders such as the COLEACP, GLOBALG.A.P., Union Fleurs, Floriculture Sustainability Initiative (FSI), Global Social Compliance Program (GSCP), Horticulture Council of Africa (HCA), European Development Fund (EDF), Dutch Government, British High Commission, and USAID.

Certification scheme

The Kenya Flower Council Certification Scheme is guided by an Accredited Quality System Regulations that defines the management, auditing and certification process. Producer Members subscribe to the Flowers and Ornamentals Sustainability Standard (F.O.S.S) audited annually.

Producers are awarded either Silver or Gold Certificate after complying with all the requirements of the certification category applied for.

The F.O.S.S is based on environmental and socio-economic principles which ensure certified producers foster sustainable, responsible and safe production of cut flowers and ornamentals. The Standard covers governance, good agricultural practice, human resource management and workers welfare, health & safety, environmental protection & conservation, and post-harvest management.

In early 2016, the F.O.S.S was added in the Floriculture Sustainability Initiative (FSI) basket of Sustainable Standards. Compared with other recognized standards on the International Trade Centre (ITC) Standards Map, the F.O.S.S stands out as one of the most robust standards in the basket so far. The Standard has also been benchmarked with GLOBALG.A.P. FO version 4 as equivalent. The Certification Scheme works in partnership with other certification scheme stakeholders in flower business e.g. UK Supermarkets (TESCO PLC, Sainsbury, Waitrose, e.t.c); Flower Auctions in the EU, Japan, and USA. The Standard also embraces the requirements of the International Code of Conduct (ICC), the International Labor Organization (ILO) and the Ethical Trade Initiative (ETI).

Over the last 20 years the Council has continually reviewed the Standard in line with emerging issues, and we are proud to note the standard is now internationally recognized through the FSI and the ITC standards map.

The Vision

"To be the lead organization in the provision of representational, self-regulation and promotion services for the floriculture industry in Kenya."

The Mission:

To promote economic, social and political interests of the floriculture industry through active participation in the determination and implementation of policies governing sustainable development of the sector

The Strategy

Active participation in the formulation and implementation of policies governing sustainable development of the floriculture sector

Oserian – The "Living Story"

Statice – first cut flower at Oserian 1982

Avalanche Pastel Rose Mix 2016

Oserian Farm

By HAMISH KER

Environmental Protection and Conservation must be balanced with social and economic factors in order to achieve sustainability.

Oserian has farmed in harmony with the region's flora and fauna for almost half a century.

The Oserian Development Company Ltd is situated in one of Kenya's most spectacular landmarks – The Great Rift Valley - on the shores of Lake Naivasha.

Oserian translates as "Place of Peace" in the language of the Masai people -the story of Oserian is one that encompasses a passion for beauty and peace. This translates into a love for flowers, and a compelling desire to conserve nature's riches which are our heritage.

The vision of sustainable enterprise was created by the Zwager family and has now become a part of the philosophy and culture of our people and the community we live amongst.

Oserian farm was developed by Hans and June Zwager, from the late sixties.

Flower farming was first introduced to Oserian in 1982 when the Zwager family planted their first crop of purple Statice. Today Oserian is one of the largest and most respected floriculture ventures globally. Peter Zwager who is now the Chairman has steered the technological developments at Oserian farm from the creation of tissue culture laboratories to produce clean plant material such as bananas for small scale farmers to green production systems embracing our natural resources such as Geothermal energy in order to bring natures solutions into the commercial arena.

Oserian pioneered flower farming in Kenya and has played a leading role in creating the global flower markets as we know them today.

This publication provides an insight into one of Kenya's largest flower farms that is also a global model of excellence, which has enabled us to become 'Champions of Nature'.

Oserian farm cultivates over 200 hectares of cut flowers and is one of the world's largest Fairtrade cut flower producers. Oserian grows today a wide range of cut flowers including roses, statice and spray carnations.

Oserian - Colourful schools

Oserian believes in and demonstrates its commitment towards its people through innovative projects which aim to continually improve the standard of living and quality of life of our people and our surrounding communities.

We appreciate that we are only as good as our people and therefore employee and community welfare is therefore key to our sustainability as a business and our natural environment.

The initiatives created by Oserian funded from the sale of ethically traded flowers, include projects to improve health, education, water and sanitation – to name but a few. These developments have enhanced the lives of Oserian employees as well as those from our neighboring communities.

Further to our community focus Oserian has dedicated considerable resource to reduce her footprint on the environment by adopting nature's solutions such as geothermal energy and integrated pest management as well as setting aside habitat to conserve nature on and around the estate.

It is noticeable to the visitor that Oserian is alive with the sights and sounds of nature.

Attention is always given to the areas between fields, bordering housing estates and on the roadsides, by encouraging the growth of various native grasses, herbs and shrubs.

These areas are important habitats for birds, small mammals, reptiles and a variety of insects. They also act as corridors for the larger species of wildlife.

Oserian encourages its neighboring communities to support reforestation projects. Tree seedlings are donated from the farm every year to the communities for planting, thus ensuring additional growth of more than 10,000 trees each year.

Oserian is proud to host many types of indigenous fauna. This includes more than 320 bird species which have been recorded on the estate such as the African Fish Eagle.

Oserian is proud to have created a sense of environmental awareness amongst its people, as well as its neighboring communities.

As a result Oserian has been recognised as a 'Champion of Nature' by the World Wildlife Fund (WWF).

Oserian has also been a key sponsor of the Oserengoni Wildlife Conservancy which borders the Rift Valley's Mau Escarpment. The conservancy has a number of projects in place to protect grevy zebra, colobus monkey, leopard, wild hunting dog and the aardvark - all of which are species classified at different levels of endangerment.

The unique Oserian philosophy of "Flowers 4 life" is key to creating the balance we need by creating the value from the business that supports people's needs by using natures resources but at the same time conserves and protects our precious ecosystem for future generations.

Conserving endangered species- Grevy Zebra

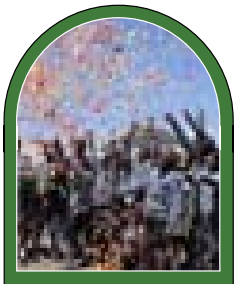
Oserian

FLORI4 LIFE

Our award winning flowers make lives better, create jobs and support a greener planet inspired by the vision of the Zwager family. For more info visit www.oserian.com

FLORI4 NATURE

We sustain nature through our wildlife sanctuary and native vegetation. We raise seedlings for reforestation, use geothermal power to heat greenhouses, apply IPM to reduce chemicals and recycle plastics.



FLORI4 SCHOOLS

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

FLORI4 FARMING

We believe in a hunger-free Kenya. Our Tissue Culture lab produces high value food crops like banana seedlings and seed potato to increase farmers' yields.

FLORI4 WATER

Water is life. Our water management model has been cited by the Water Resource Management Authority as an industry benchmark. Oserian has developed several community water projects.

Naivasha Office: P.O Box 2010, Naivasha 20117, Kenya, +254 (0) 50 2030210 / 2021036, +254 (0) 727 534 550 +254 (0) 736 444 440, +254 (0) 50 2021035, Nairobi Office: P.O Box 43340, Nairobi 00100, Kenya, +254 (0) 20 660 8000, +254 (0) 20 2139323/4/5/6, +254 (0) 726 111 000, +254 (0) 20 660 8240

Highlights of the Kenya Flower Council achievements

- **1996** the Kenya Flower Council established and formulates an industry standard to guide responsible production of flowers for export by Producer Members. The Council continues to nurture development of the standard
- Established a high powered secretariat to represent the industry and to provide value added services including an internationally accredited standard and a sound quality management scheme
- **2004-2008** the Council initiates and embraces a Quality Regulations System to guide its certification activities.
- **2005**
- the Kenya Flower Council Standard gains "equivalence" status to GLOBALG.A.P. Flowers & Ornamentals.
- Inspections of roses from Kenya reduced form 100% to 10%.
- **2007** the Standard is benchmarked to KS1758. The Council enters into an agreement with the Kenya Bureau to implement and certify growers for KS1758
- **2008** - The Certification Scheme is accredited by the South African National Accreditation System (SANAS).
- **2012**, the Council spearheads review KS1758 2004, flowers and ornamentals. The expanded scope KS1758 2005 PART 1 Flowers and Ornamentals, covering breeders, growers, consolidators and cargo handlers is launched in **2014**. It is now an integral component of exporters licencing requirements. Over and above, the foundation of the industry led National Mechanism for Flower Industry Wide Compliance (NMC), graciously supported by the Dutch Government. Alongside the National Traceability System (HCD), quality assurance of the flower industry in Kenya, has taken root.
- **2015** the Kenya Flower Council Standard is uploaded to International Trade Centre (ITC) Standards Map for comparability with other recognised international standards on Environment and Socio-economic sustainability criteria. Emerges as a superior standard among the initial 7 standards to go through the process
- **2016** The Standard gains equivalence to Global Social Compliance Programme (GSCP).
- **2016** the Standard enters the Floriculture Sustainability Initiative (FSI) basket of sustainability standards alongside other leading international standards
- **2015** the Kenya Flower Council establishes that the industry has accessed 60 market destinations Worldwide.
- **2016** membership registers 97 grower members from 6 in 1996 and 35 in 2015 and ? associate members
- Proactively participated in resolving fresh produce market access restrictions with KEPHIS and HCD
- Inclusivity achieved leading to increase in smallholder and florists participation in the flower business.
- Proactively supported negotiations for EAC EU Economic Partnership Agreements since 2007
- Upheld deliberations with the County Governments to stem business interruptions as the counties settled in on their roles in governance
- Advocated for VAT refunds, simplification of tax collection and regimes and lowering of the cost of doing business in Kenya.
- Sustained useful networks for industry representation such as Union Fleurs, LNGG, Civil Society Organizations, FKE, KAM, KEPSA, Council of Governors, County Executives and Assemblies to strengthen industry voice through sharing of information, market intelligence and knowledge acquisition.
- Built solid partnerships with reputable organizations for capacity building and training, including the Dutch Government USAID-KAVES, WWF, Centre for Development of Enterprises (CDE), CBI, DFID, COLEACP, and the British High Commission
- Improved the image of the Kenya flower industry locally and abroad

***Abbreviations**

USAID-KAVES- Kenya Agricultural Value Chain Enterprises
WWF,- World Wildlife Fund
CDE- Centre for Development of Enterprises
CABI, Centre for Agriculture and Bioscence International
DFID- Department for International Development
COLEACP- European Africa Carribean Pacific Liasion Committee
KEPHIS - Kenya Plant Health Inspectorate Service
KEPSA- Kenya Private Sector Alliance
KAM- Kenya Association of Manufacturers
FKE- Federation of Kenya Employers
LNGG- Lake Naivasha Growers Group

Compiled by Johnstone Mulary

kenya
flower council
QUALITY ASSURED

Meeting global standards for Kenya's flowers

The Kenya Flower Council is a voluntary association of independent producers and exporters of cut-flowers and ornamentals. It is our mandate to ensure environmental and socio-economic sustainability; through compliance to good agricultural practice, social accountability, hygiene, health and safety, protection and conservation of the natural environment and capacity building. It is against this background that KFC has become the industry platform for representation, promotion and compliance to local and international standards, which are necessary in securing markets.

GLOBALG.A.P.
The Global Partnership for Good Agricultural Practice

kenya flower council @20
QUALITY ASSURED

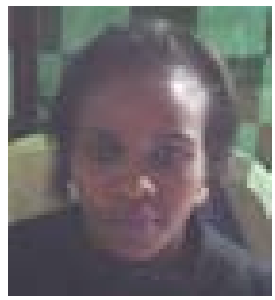
The team behind the scene at Kenya Flower Council

Johnstone Mulary

Mulary is the Advocacy/Lobby Officer having previously worked with WWF-World Wide fund for Nature and Central Agricultural Bureaux International (CABI) as a communication specialist. He provides support in the realm of industry lobby, representation and promotion. His roles include creating an enabling environment for horticulture business to flourish by positively influencing policy development and formulation.

He holds a Bachelor of Arts Degree-Sociology-from Kenyatta University and a post graduate diploma in Mass Communication-University of Nairobi. He is also skilled in animation and motion graphics inter alia. He has more than 10 years experience in the field of advocacy and communication.

Salome Muhia



Miss Salome Muhia is a Bsc Environmental Studies (Community Development) graduate from Kenyatta University with certificate in Quality Management System ISO 9001. As a trainee auditor, her role is to carry out farm audits under the Principal auditor and produce timely and accurate reports on the inspections in accordance with ISO/IEC 17065, KFC auditing procedures and GLOBALGAP timelines and system requirements. She also carries out other tasks the KFC shall require her to do.

Samuel Gitau Kimani

Samuel Gitau Kimani is the Kenya Flower Council Driver since 2011. He is a trained Mechanic and a driver with a wealth of experience of over 20 years on long distance travel (Class A, B, C, E and i special type), all round mechanical repairs and vehicle maintenance.

Carol Jebet Cheruiyot

Carol carries out farm audits to ensure member's compliance with the Code of Practice requirements on the Environmental, Quality, Social Accountability, and Good Agricultural Practice Management Systems since April 2010. She holds a Bachelor of Science in Horticulture from Moi University. She has received training on IRCA Registered Lead Auditor/Internal Auditor courses on ISO 9000 (Quality Management Systems), ISO 14001 (Environmental Management Systems), ISO 22000 (Food Safety) and SA 8000 on Social Accountability.

Carol has also undertaken various trainings on Supply chain Management in the Floriculture industry, Increased productivity and sustainability management i.e. social and economic sustainability, climate change, Agricultural biodiversity and training on Water stewardship under WWF integrated water Resource Management Plan Programme (IWRAP)

Carol is also an approved Auditor for GlobalG.A.P. Integrated Farm Assurance Flowers and Ornamentals and propagation material.

So far She has carried out over 400 audits covering, Social accountability, Environment, Good Agricultural Practices, Quality Management and Healthy and Safety in flower growing and exporting companies.

Joseph Akoyo Okoth

Joseph Akoyo Okoth is the office assistant and has been with the Kenya Flower Council since 2004.

Loise Mukami

Loise is a Bachelor of Science (Horticulture) from Moi University, and currently pursuing a Masters Degree on Occupational Safety and Health from Jomo Kenyatta University of Agriculture and Technology (JKUAT).

She is the KFC Senior Lead Auditor and assistant to the Head of Compliance Department, and has worked in the horticulture industry for more than 12 years.

She has achieved commendable experience and competency in the fields of Social and Ethical Audits, Safety and Health, Environment, Good Agricultural Practice, Quality, and carried out over 600 Audits.

She has audited farms in Kenya and Ethiopia on a number of standards including GLOBALG.A.P., Fair Flowers Fair Plants (FFP), Tesco Nurture 10, KFC Flowers & Ornamentals Sustainability Standard (Silver and Gold categories), and a registered EA/EIA Lead Expert by NEMA.

Loise has a wide experience in standards development and has participated in the review of the KFC Flowers & Ornamentals Sustainability Standard over the years in line with local and international requirements. She has been actively involved in the review of the Kenya Standard on Horticulture-KS 1758 with the Horticulture Committee at Kenya Bureau of Standards (KEBS) where she is a member.

Loise is also a Member of the National Steering Committee on Social Responsibility at KEBS and a National Expert on ISO 26000 on Social Responsibility. She coordinates activities of the KFC Certification Committee, a member of the KFC Technical Committee, has attended many local and international conferences, seminars, trade fairs, and workshops representing the Council and as part of professional development.

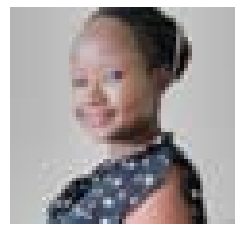
She is all rounded and involved in all the activities of the Council!

Evans Gichuhi

Evans heads the finance and administration portfolio and also doubles up as the project officer at the Kenya Flower Council. He holds a Masters degree (MBA- Finance) from Moi University and is a CPA-K. He has worked for Keny

a Flower Council for the last 8 years, having joined the council in the year 2008. He has over 13 years of experience in the accounting field while working the horticulture and commercial world.

Winnie Muya



Winnie Muya holds a Diploma in Journalism from Kenya Institute of Mass Communication. She handles all the aspects of the Council's Communication, compiling and disseminating information on KFC activities and industry related information. She also represents KFC in different sectoral committees from time to time. She has attended other courses such as National Cluster Facilitators Training of Trainers and Web 2.0 Online Presence Management Training. She is an advanced user in several designing packages and IT support.

She has worked with the Kenya Flower Council for more than 6 years achieving commendable experience and competency. She has a wealth of experience in office administration, customer care, news gathering, feature writing, editing, reporting, public relations, marketing, organizing local and international events/meetings and also photography.

Bernard

Bernard has background education in agriculture with 12 years' work experience in auditing based on good agricultural code of practices, social accountability, fire safety, risk assessment and environmental audits in accordance to National Environmental Management Authority regulations, HACCP, training on safe use of pesticides, food safety and hygiene, requirements of international standards relevant to product safety and management systems.

He is able to carry out Re-certification and certification farm audits to assess compliance with the Kenya Flower Council Standards applicable within the Kenya Flower Council certification scheme and also maintain the competency and knowledge of the standard.

He is able to produce timely and accurate audit reports on such inspections in accordance with ISO/IEC 17065, Kenya Flower Council auditing procedures and GLOBALG.A.P timelines and system requirements.

Bernard Participates actively in the Quality Management System, QMS, establishment, implementation, maintenance.

He has previously worked as Senior Consultant at (Millenium Management Consultants) assigned tasks on risk assessment, fire safety, social audits, HACCP documentation and implementation, NEMA audits, ISO 9001 quality management system implementation assessment and internal audits. Also assist in documentation of food safety & quality management system, EUREPGAP/Global gap Implementation

Bernard is registered with the following organizations/ bodies

a. UTZ Certified/Coffee Support Network (CSN) - Agronomist & Technical Assistant
b. COLEACP/Pesticide Initiative Programme (PIP)
c. KOAN (Kenya Organic Agriculture Network)
d. National Environmental Management Authority (NEMA)
e. GLOBALG.A.P

60 and counting: Kenya flowers conquer global markets

New figures reveal a huge drop in Dutch production, in favour of imports from Kenya

Kenya prides itself in high quality flowers which gives it a competitive edge in the global markets

A growing interest by growers to focus their attention on direct markets rather than the auctions is signaling a new trend in marketing Kenyan flowers as growers seek the cheapest and most rewarding avenue to sell their flowers. This has seen growing demand for flowers by buyers which has further cemented its position as one of the flower giants globally.

And although the country still enjoys the largest market in EU, accounting for 35 per cent of all sales in the European Union, it is making inroads in new markets including Middle East and North America. Currently Kenya exports its flowers to 60 destinations with roses making up 74 per cent of Kenya's flower exports, followed by carnations which are the most popular flower in Britain at less romantic times because they last longest.

"Kenya prides itself in high quality of flowers which gives it a competitive edge in the global markets. New markets have also warmed up to our flowers because of the quality. We are currently number two in exports," said Mrs. Jane Ngige the CEO of Kenya Flower Council.

New figures reveal a huge drop in Dutch production, in favour of imports from Kenya. The country's cut-flower exports increased 12-fold to 137,000 tonnes between 1988 and 2014 as Netherlands buyers realized it was cheaper, and counter-intuitively greener, to fly blooms thousands of miles than to heat Dutch greenhouses.

So how has Kenya mastered the markets to become world-class growers and exporters of cut flowers in this highly-sophisticated global market? The country has for starters partnered and recruited experts from all over the world invested billions in the latest technologies, including climate-controlled transport terminals specially designed to ensure fresh flowers arrive

DE RUITER Proudly presents Regional Coverage for IFTEX 2016

De Ruiter East Africa is proud to present a regional coverage during the IFTEX 2016, in a bid to ensure continued market growth in challenging economic times. The establishment of test cases and show houses across the regions has been paramount in our strategy for 'Creating Flower Business' This has been close to our client based market approach to close the gap between the breeder and grower.

Fire Expression

Classico

Naivasha

Timau

Nakuru

The three locations altitude ranges from Naivasha 1900m, Nakuru 2300m , Timau 2500m these micro climatic showcases provide a platform for our clients to help reduce the level of error and prepare future multi destinational varieties that are robust in marketability. Further to this we have seen these locations used by various buyers, traders and stakeholders in the industry.

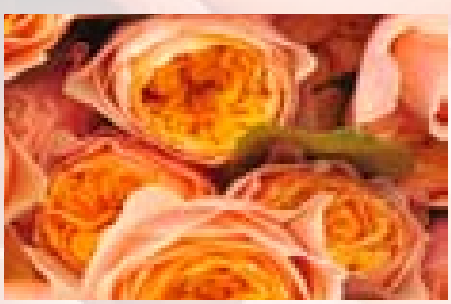
Market Analysis

The international market has been increasingly demanding innovation and it has resulted in an amazing response from our industry. The producers have responded in a creative and substantially market robust strategies that we have identified. These are taking place across the regions in Kenya with the key premium producers. The novelty line development has been nothing short of phenomenal and an increased demand for Garden shapes and Niche lines has seen great success generated. De Ruiter East Africa has played a significant role in this development and will continue to breed develop and select for a rapidly changing market, some of our novelty lines displayed above.

Market Sustainability

De Ruiter has a customized approach to our clients across the continent this can be seen inclusive of Regional trading head starts and release policies. De Ruiter has continued marketing support and assistance in product branding throughout the life cycle of a variety on auction and direct markets. De Ruiter further will assist in new market development such as the presence in the recent Beijing Flower show in China amongst other new market opportunities. We as such look forward to welcoming you into our wide ranging and exciting new portfolios regionally represented by altitude and market.

Vuvuzela



Misty Bubbles

Edward Agg-Manning – edward.agg.manning@deruiter.com, Guy Keeble - guy.keeble@deruiter.com
Fred Okinda – fred.okinda@deruiter.com

Kenya is the lead exporter of cut flowers to the European Union with a market share of approximately 40%.

quickly across the world looking as beautiful and smelling as nice as when they were first cut. Paying attention to customers who say they really want to buy cut flowers that last a long time while learning from the transfer of technology skills and best practices has equally paid off.

The country's flower power is also attributed to its sunny climate, which enables high-quality blossoms to be grown year-round without the need for expensive-to-run greenhouses. Excellent transport links to Europe and the rest of the world mean that delicate floral cargo which is perishable in nature can be shifted from growers to consumers swiftly.

According to Mrs. Ngige direct flights from Nairobi airport play a crucial role in helping the Kenyan flower business take off globally.

The industry however has not been without hiccups with major global phenomena affecting export numbers. International events, including Russia's war in Ukraine and plummeting oil prices, have shaped flower fortunes for numerous Kenyan farms. Sales to oil-producing nations, such as Norway and those in the Middle East, have dropped due to their reduced spending power. In 2012, flower exports to Russia, the world's fifth-largest flower importer, began shrinking due to its tanking economy and depreciating ruble. Russian military intervention in Ukraine in 2014 only "worsened the situation,

Still the industry continues to take its pride of place in the country Kenya's flower business continues to employ half a million Kenyans while earning the country Sh63 billion in revenue according to government statistics. "Access to direct markets compared to auctions by flower farms mean that they have understood the markets well. But this has also forced them to learn new marketing and logistical support. This is the way to go," said Mrs. Ngige.

Buyers keen on learning how flowers are produced and whether growers observe good agricultural practices have sought to meet in an annual fete dubbed the International Flower Expo, IFTEX, now in its fifth year. The show has grown into a top Kenyan brand, strengthening the country's position as a leader in global markets, while enhancing the image of Nairobi as the home from where 40 per cent of the flowers sold in Europe originate.

"IFTEX has stumped its authority as one of the leading flower trade shows in the world. From the beginning, the event exhibited signs of setting a new record as the fastest growing flower show in the history of international flower trade fairs due to its attracting exhibitors from other continents and five years later, all indications are, the position still holds," said Dick van Raamsdonk General Director HPP Exhibitions the organizers of IFTEX.

As the flower industry celebrates its 20th anniversary this year, flower growers have positioned themselves to capture more markets even as they work at developing the brand Kenya flower. "We are not really worried about the Ethiopian question because our main focus is on quality. If anything we have been working at assisting Ethiopia perfect its quality because it matters to us that Africa is known for quality in flower production rather than quantity. Kenya's space and reputation in the global flower market depends on how Ethiopia also produces its flowers," added Mrs. Ngige.

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Hicure® is a powerful biostimulant that has been proven to mitigate stress in plants resulting in more vigorous, healthy and high quality flowers with a longer shelf life.

As an associate member of the Kenya Flower Council (KFC), Syngenta East Africa Ltd congratulates KFC on its 20th Anniversary.

We celebrate the continued impact and efforts that KFC has made in promoting sustainable farming practices in the cut-flowers Industry in Kenya.

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™

Flower Markets

Markets

Kenya is the lead exporter of cut flowers to the European Union with a market share of approximately 40%. Some of the major buying countries are Holland, United Kingdom, Germany, France, and Switzerland. Others are Japan, Russia, Australia, Korea and other African countries like South Africa. In the international markets, flowers are supplied either through auctions, or directly to wholesalers and retailers (supermarkets).

Holland boasts the largest auctions and is traditionally the world's largest flower buyer and marketer. Other big auctions are in Germany, US, Japan and Russia.

While different markets subscribe to own standards, there are three basic categories of standards requirements as shown on the graph below;

However, over the years direct marketing has taken centre-stage as growers prefer to cut off the intermediaries and sell directly to retailers, an arrangement known as direct marketing. They get their orders directly from the shops and pack the flowers reducing the time consumed at the auction. In so doing, they make a bigger profit margin and the buyer also benefits from lower prices. Flowers for direct markets are packaged and labeled ready-for sale from the farm with the retailer's and suppliers labels.

Buyer requirements can be divided into

1: Must: requirements you must meet in order to enter the market, such as legal requirements
2: Common: Requirements, which ones need to comply with in order to keep up with the competition in the market
3: Niche market requirements for specific segments such as fair trades

Cut flower musts: Strict phytosanitary requirements

–Plant health is a very important issue in international trade and there are strict rules in order to avoid the entry and spread of plant diseases. In Kenya, all exports must be accompanied by a phytosanitary (plant health) certificate issued by the plant health authority, KEPHIS. If you are exporting flowers that are listed as endangered, according to the international CITES convention (e.g. certain orchids), you have to take specific procedures into account, to prove that trade will not be harmful to the survival of the specie in the wild. Furthermore, you have to make sure that you respect the intellectual property rights that may rest on the variety of flowers you are exporting.

Common requirements: CSR in mainstream demands

Consumers pay more and more attention to social and environmental aspects of flower production. As a result buyers require growers to meet certain environmental and social standards in the form of certification and consumer labels. Compliance with environmental standards is very common, while social conditions are gaining importance.

Several supermarket chains offer flowers under their own private labels often referring to social and environmental conditions at the production level.

Cold chain management

Wholesalers are becoming more aware of the positive impact of cold chain management on the quality and vase life of flowers. As a consequence, buyers' demands for cold chain protocols are growing, requiring that growers be aware of these requirements, while buyers know that the protocols are followed,

Niche requirements: CSR in consumer labels

Although sustainable production plays a prominent role in the buyers' requirements, the market for certified flowers bearing a consumer label is still rather limited. However, labels such as the Rain Forest Alliance, Fair Flowers Fair Plants, and Fair trade labels are becoming increasingly accepted to show consumers that extra attention is paid at the production facilities.

Organic flowers are grown using ecological production methods laid down in legislations. The market for organic flowers is very small and most organic flowers available are produced in Europe.

As an awareness creation programme is drawn, it is important that buyer and growers understand each other. Buyers need to know the growers and their capabilities to meet, legal standards and buyer and consumer standards while growers must know the both the importing country's legal and buyers requirements.

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Every farmer's needs are different and this determines their choice of farm machinery. Should you require a tractor for heavy or light duty, CASE has one that will not only meet but surpass your demands. Renowned the world over for their legendary perfomance, longevity and durability, CASE tractors will get the job done, everytime. Twende Kazi!

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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 (CH2 = CH2). 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 Chrysal has **Chrysal 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

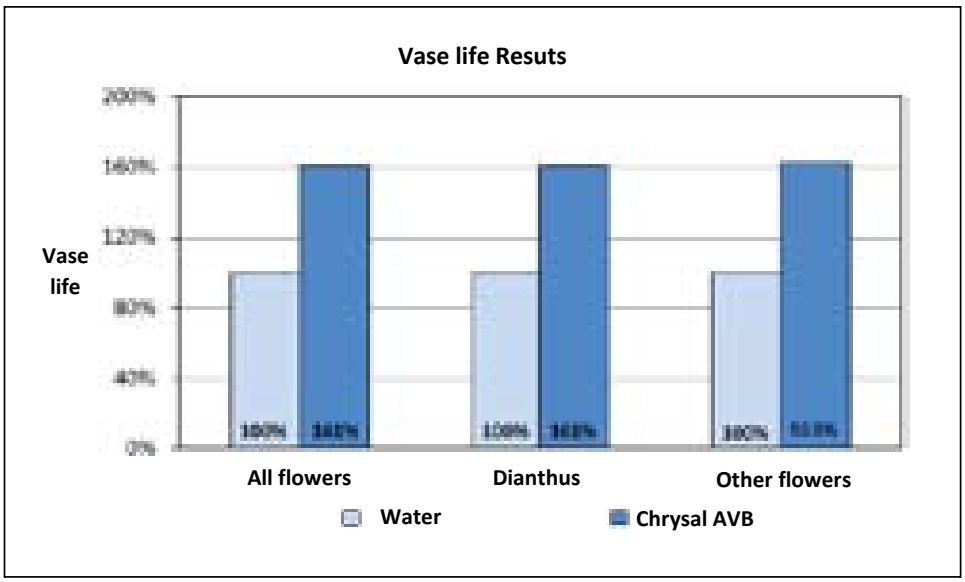
It is very important that growers strictly treat the ethylene sensitive flowers. For example when you notice in your vaselife room that after only a few days your Carnations / Roses shrink, wilt, droop you can take it for granted that they have not been treated correctly.

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.

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

Innovations driving the flower industry

One of the most advanced and heavily embraced technologies by growers is hydroponics, 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 environmental friendly raiiling system that transports flowers from greenhouses to packhouses at Redlands Roses

By BOB KOIGI

As flower markets demand responsible flower growing, and growers look for the cheapest ways of producing high quality varieties, cutting edge innovations are coming up redefining flower production. The measures employed by the sector target protection of people, environment and profits.

From hydroponics to geothermal heating, flower farms have come of age, breathing fresh energy to the industry and rubberstamping responsible growing, as HortiNews found out from a few farms.

At Magana Flowers, one of the pioneer growers, innovation has been inspired by a need to cut cost of production while meeting market demands. The company has invested in five dams that allow water harvesting.

About 80 per cent of the water used by the farm is through water harvesting. "We have committed ourselves to ensure we use any available natural resource to grow at our optimum while incurring the least amount of expense. The pay offs have been instant," said CEO Nicholas Nyambega.

One of the most advanced and heavily embraced technologies by growers is hydroponics, 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 water resulting in savings of between 40 to 60 per cent.

Hydroponics also allows protection of the environment since no metals leak to the soil.

We have embraced hydroponics ensuring that plants are grown in a medium fitted with drip lines from a central place where fertigation is done. Crops take only what is required and the rest goes back to the tank for purification and replenishing. "With hydroponics there is no wastage of water or nutrients. This we believe is a way of us giving back to the environment what we take out for sustainability of the business. We have also saved a lot of investment through the technology," said Richard Fox the Managing Director, Flamingo Horticulture Limited.

To tame proliferation of pests and diseases, while taking care of the environment, growers have

equally embraced Integrated Pest Management that nips pest problems before they escalate.

At Redlands Roses in Ruiru the company boasts of a wide array of IPM innovations including traps. Sticky traps helps in monitoring the number of pests. Light traps on the other hand attract pests to the source of lights which then fall on water placed in special bowls and die. Pheromone traps another biological control method practiced by Redlands Roses involves use of traps that dupe the male of the presence of a female ready to mate. A pheromone is a biological chemical secreted by female insects or even mammals that triggers the attraction of a male to a female. Such biological control methods have been instrumental in controlling some of the most voracious pests including spidermites, thrips and whiteflies.

"We have invested heavily in IPM technologies because we believe in responsible flower growing. We have also realized as we do this that it is more economical and rewarding to go biological for the environment and the people who for us. We have also seen its potency in the long run," said Mrs. Isabelle Spindler, managing director, Red Lands Roses whose sentiments echoed by Mr. Ambanya. "As a grower, your primary concern is how to save on cost while not compromising on the quality of your flower. We therefore have to ensure that we work with only the very best. This is what Magana Flowers has chosen to pursue. Of course the initial cost of investing in IPM and biological control methods is expensive but it pays off in the long run," he said.

And as the reality of the vagaries of weather hits home bringing with it pests and diseases that thrive in hot or cold conditions, flower farms have taken innovations that addresses this challenge a notch higher. Red Lands Roses for example through its Fulsog technology sprays water in greenhouses to increase humidity, a process called fogging. The foggers automatically spray mist every three to four minutes. This water is mixed with Chlorine to control Powdery Mildew which can wipe yields within days.

Barcoding one of the elements in flower production that ensures traceability across the value chain

Fertigation one of the recent technologies that distribute fertilizers to flowers

And as the markets continue to demand responsible flower growing that takes care of the environment, flower growers have angled towards practices that reduce carbon emission. At Red Lands Roses, an elaborate railing system from the greenhouses to the pack house ensures that once flowers are harvested, they are transported using a medium that does not emit any gases. This is in contrast to tractors that have traditionally been preferred but that are known to produce toxic fumes.

The flower company also rears sheep which feed on grass, allowing the company to do away with mowers. Oserian Development Company in Naivasha has kept sheep for 'mowing' vegetation among other uses while at Flamingo Farm, donkey carts ferry flowers from the greenhouse to pack houses. "Kenya has demonstrated to the markets that it takes seriously the aspect of responsible flower growing even as the growers cut on cost by embracing these innovations. I see an increase in this innovations going forward which portends a robust industry," said Mr. Fox.

The environmentally friendly crop guide

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Applying hydrated Absorber avails moisture to transplanted plant and **increases** survival rates
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ACHOOK® 0.15% E.C.

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Neem tree (mwarubaini) extract
Effective against nematodes, chewing and sucking pests
It has anti-feeding, repellent/deterrent and insect growth disruptant effects
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FOLIAR & DRENCH APPLICATIONS

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Certified for organic farming
Enhances root development leading to better top growth
Reduces transplanting shock
Increases yields

nhance®

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All products are Non toxic, Biodegradable and Environmentally friendly

IMPORTANT

Organix products give the best results when used in combination or in addition to the normal crop production programme. All other factors such as favourable climatic conditions, adequate water, good seed, etc should also be at an optimal.

PLEASE READ THE PRODUCT FLIERS AND LABELS CAREFULLY BEFORE USING.
ALL PRODUCTS SHOULD ALWAYS BE TESTED ON A SMALL AREA BEFORE LARGE SCALE APPLICATION

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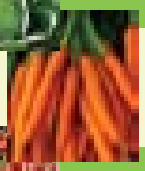
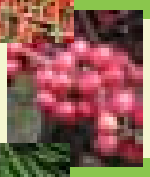
	ABSORBER®	ACHOOK® 0.15% E.C.	EARTHLEE®	nhance® FOLIAR & DRENCH APPLICATIONS
BANANA new planting 	Mix 10 - 20g with soil per planting hole	Nematode : 2L Solution per plant (8ml / 1L water)	Mix 40g with soil per planting hole	Drench seedlings at 5ml / 1L water one day before transplanting. Follow with 2 foliars 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 foliars 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 foliars 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 Foliars 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 foliars at 2 week interval at 3ml / 1L water starting at trifoliate stage
FRUIT TREES / FORESTRY - mangoes, avocadoes 	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 foliars 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 Foliars 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 Foliars 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 Foliars 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 foliars 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 foliars at 2 week intervals at 3ml / 1L water starting at trifoliate stage
POTATOES 	NIL	Insects : Foliar 1ml / 1L water	Coat 1Kg Earthlee with 50Kg granular fertilizer	Dip tubers in 2ml / 1L water for 15minutes 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 foliars 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 foliars 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 foliars 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 foliars 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 **

* ZAIDI® 0.025% E.C. 3 foliars at 5ml / 20L water at monthly intervals. Commence spray before dry spell.

** nhance® SEED TREATMENT Mix 100ml / 10kg of seed thoroughly.

ELGON KENYA LIMITED

If the world sees Kenya as an agricultural powerhouse, why not live to the honour?

By BIMAL KANTARIA

Hardly a week goes without a report on the state of agriculture in Kenya or Africa being released by respected scholars and agricultural institutions. Majority of these paints a picture of a country on the cusp of takeoff while painting agriculture as our saving grace.

Infact I have been an avid of two such reports released by the Food and Agriculture Organization and World Bank that classed Kenya as so verdant and lush that it is comfortably capable being a global agricultural powerhouse feeding its own and the world. And there is no question about that. Kenya is indeed a land of plenty. Plenty land, plenty resources, plenty skill set and most importantly an abundance of will power. Behind the harsh unforgiving weather conditions, tough working conditions and hostile markets has always been the undeterred resolve by Kenyan farmers to keep Kenya fed and economy growing. I live for such moments.

Yet behind the praise and optimism lies a sorry state of affairs evident in the thousands of small scale farmers still stuck in age old farming practices, overreliance on low yielding stress prone crop varieties even with dozens of superior crop varieties having been unveiled, lack of water harvesting mechanisms and food waste.

Our priorities from farm to fork seem warped which could be a major contributor to our snail paced commercialization of farming. Infact Six out of every ten farmers in the country are stuck with one form of crop cultivation which has had a ripple effect on household diets and income researchers say. This has created a host of 'willing poor' as described by a renown agricultural officer who blames this obsession with one form of farming as the contributing factor to the abyss of poverty that most farmers have found themselves in.

The point here is the nexus between food security, income generation and agricultural diversification cannot be gainsaid.

And no time has this been so crucial than our times when a growing population coupled with the effects of climate change is rendering certain crops 'uncultivatable.' Policies are equally shifting to embracing mixed farming. President Kenyatta incessant clarion call has always been that by expanding the scale of agribusiness activity as well as increasing its diversity, we aim to make everyone in Kenya a producer and employer, while transforming Kenya into a continental bread basket. This can only be achieved if we ensured that we have a rethink of the entire crop production chain. At Elgon Kenya Limited we have started. From ensuring access to high yielding disease tolerant seed varieties, availability of fertilizers to farmers when they need it, modern crop threat arsenals, top notch farming technologies and agronomic support we feel we are creating an environment that will allow Kenya be food sufficient.

Our commitment to the agricultural sector in Kenya is unwavering and continues to illuminate in the many kilos farmers harvest and the shillings they get as they access the markets. That is our ultimate resolve. Allow me to congratulate the Kenya Flower Council for turning 20. It is a remarkable achievement and a heartwarming feeling celebrating a partner who has grown with us and shares in our passion of transforming our country's economic fortunes.

ELGON KENYA LIMITED

Celebrating the Kenya flower's journey of a thousand miles

By BAIJU KANTARIA

Three years ago heavy rains, strong winds and rapid fluctuations in temperature saw several flower farms in the country lose their greenhouses which were blown off while others especially around Lake Naivasha were submerged by flood waters. In one such dire situation the flooding water swept through the greenhouses and also damaged the rain water collection system of one of the flower farms. At one time the farm was at a standstill since the workers could not report. There was no harvesting, processing of flowers and exports losing the days production of about 60,000 stems. Last year the when El Nino rains struck, flower farms were on blue stand which had little or no impact on production numbers. Such resilience defines part of the journey the Kenya flower industry has traveled to occupy one of the most enviable global position while being one of the anchor earners of the country's foreign exchange.

The industry has continued to attract investors due to a solid infrastructure, favourable climate, global-positioning of Kenya in addition to a productive workforce. It comprises large, medium and small scale producers who have attained high management standards and have invested heavily on technical skills, production, logistics and marketing. The growers have vast knowledge complemented by modern technology for precision farming and prowess in marketing.

The militarily precise work force that grades, ties in bunches, packs in boxes and refrigerates millions of carnations a day has created a sub sector that has been among the mainstays of the relatively scarce Kenya's foreign-exchange earnings while providing a source of livelihood to hundreds of thousands of Kenyans.

The depth of this importance has guided Elgon Kenya Limited in channeling its efforts and resources to boosting and lending a hand to industry players in the market.

At Elgon Kenya Limited we have taken flower production seriously through rolling out various products and services that responds to the needs of flower growers. Living true to our Elgon Tosha mantra, we have introduced state of the art irrigation technologies, brought on board very highly specialized technical team to advice our flower growers and entered into partnerships with global giants in distribution of flower products and services. It has been heartwarming being a key part of the Kenya journey and as the Kenya Flower Council now turns 20, we extend a warm hand of congratulations to the industry's lobby and look forward to playing even more pivotal role in positioning the Kenyan flower as a global icon of resilience and pride.

ELGON KENYA LIMITED

Why rewarding farmers is the pulse that keeps us going

Cabinet Secretary , Gender, Youth and Public Service Sicily Kariuki (L), Elgon Kenya Director Bimal Kantaria and one of the winners at a past National Farmers Award Ceremony

By NELSON MAINA

Three years ago in the middle of tight work schedules at Elgon Kenya, we paused and reflected on what more we could do for our Kenyan farmers. Having rolled out an array of products and services that were receiving market thumbs up, we knew we needed one more intervention to crown our resolve of changing the face of agriculture in Kenya. This is how, in consultation with the Ministry of Agriculture, the annual National Farmers Awards now in its fourth year was born.

It is an idea that has metamorphosed into one of the most decorated events in the farmers' calendar, and one that has transformed lives of thousands of farmers to unimaginable proportions.

Months of intense consultations, paper work, traversing Kenya's hinterlands and burning of the midnight has over the years culminated in feting Kenya's agriculture finest from youth, women, disabled people and flower farms. The national fete while romanticizing agriculture as a rewarding endeavour, has spurred talk and action on making life easier for food producers to feed a growing population that is already putting strain on food availability.

The thirst for farmers' recognition as evidenced in the huge number of applicants paints a tale of a group that has for long been forgotten in crucial debates but which deserves our attention now more than ever when the dynamics of food production globally are shifting in favour of developing countries. . It has been humbling to see how farmers despite old and emerging threats to agricultural production, threats of climate change and lack of clear markets have risen to the occasion of feeding the nation. Such unwavering passion has also inspired Elgon Kenya to also take the wheels of feeding our people.

We are in this for the long haul, because we have seen the transformation it has created not just for the farmers but for the entire sector. It has been a journey one we have traveled with worthy partners like the national and county governments while enjoying key support from our private partners like the Kenya Flower Council. As the umbrella body of the flower growers turn 20 this year, we give them a Vulcan salute and look forward to more collaborations that will advance our core mission of making Kenya a better place for us all.

The Elgon Kenya maize varieties that farmers cannot get enough of

At a time when researchers in the country are decrying the low uptake of the right variety of seeds by farmers which is causing a spiraling effect in matters food insecurity, Elgon Kenya Limited has successfully launched its superior maize varieties which have promised to revolutionize maize production in the country.

This has heralded the fast rising commitment of Elgon Kenya's seed department in its resolve to address the yawning difference between seed supply and demand and fight hunger across the country.

Working with research institutions and breeders, Elgon Kenya seed department have now unveiled two super modern and stress tolerant maize varieties to sate national demand. The Elgon Prestige H116, which is better suited for highlands, has been bred to ensure that it produces a dropping cob. This is strategic and ensures that the maize cob grows while bending a departure from the conventional maize that produces upright cobs. The idea is to let the maize cob shield itself from direct rainfall which affects grain quality. "Whenever it rains, the water pound on the cobs and easily sips its way into the grain which brings about associated problems like spoilt maize, low grain quality and in some cases when it is harvested in such conditions, fans aflatoxins .The dropping cob therefore ensures that water doesn't get past the cob," said Dr. B.L. Menaria, the Production Manager at the seeds department of Elgon Kenya.

Elgon Prestige 06, the other maize variety in the offing seeks to increase the stable of high performing Elgon maize varieties. Borrowing from the drought resistant and high yielding traits of the Prestige 02, the variety is suited for Nyanza and Central parts of the country. It produces double cobs leaving farmers with more yields per crop compared to what currently exists. "And when we say it is tolerant to weather conditions we just don't mean that it can survive drought. It is a variety that has been bred with the climate change phenomenon in mind. This therefore means that it can also withstand above normal rainfall like El Nino," said Dr. Menaria.

The variety is at its trial stage but according to Dr. Menaria going by the plans, it should be out in the market by August 2016. The decision to upscale and introduce another variety was also informed by an outpouring of positive feedback on Elgon Prestige 02, a variety Elgon Kenya released in 2014. The variety is resistant to virtually all maize varieties, is highly yielding, producing over 50 to 70 bags per acre. It grows well in all soil types and in every climatic condition. It takes four months on average to mature.

But the interaction of farmers with the variety has brought new surprises. Farmers now say the variety produces sweet and tasty ugali compared to Ugali made from the other varieties. It's flour, the farmers also say, doesn't require a lot of sifting and the harvested fodder remains green for a long time.

These new varieties come at a time when the country's seed sector has been in limbo. Seed is the all-important input since it determines the success of the agricultural value chain.

Seed access has particularly been identified as the bane of poor yields. Farmers still use seeds from the earlier harvests for replanting, a fact studies blames for seeds not sprouting. Infact currently five of out every ten seeds planted never sprout due to diminished nutrients.

But the quest for the right seeds doesn't end there. More than 1.3 million Kenyan farmers do not have any maize seeds to plant and around 3.7 million people in Kenya are food insecure. The demand for seeds in 13 countries in Africa combined is around 0.5 million tonnes, with the supply being only 0.2 million tonnes.

Know your pests: threats to flowers

Kenya's flower farming has been on a meteoric rise on the backdrop of heightened local and international demand and favourable growing conditions. Production and exports have been on an upward trajectory, but so has been the threats to flower farming especially rose flowers that Kenya is fondly known for. Climate change for example has brought with it new diseases and pests that threatens consistent flower production. Some of the most voracious pests include:

Thrips

A minute, less than a sixteenth of an inch long, black slender insect that resembles tiny dark threads when viewed without hand lens. Thrip, both young and mature, feed on the sap within the flower petals by rasping the tissue of the petals to suck the sap out and is responsible for upto 70 percent of yield losses. It usually starts out breeding on various grasses and weeds. Once those sources are cut down, it moves onto attacking the ornamentals like flowers.

The pest is known to prefer lighter coloured blooms leaving red spots and brown streaks on the petals. The flower buds are often deformed and typically will not open.

In extreme cases the outer petals become so softened from heavy feeding that they dry out as a hard shell, preventing the inner petals from opening in a situation termed as 'balling.' Thrips however only cause aesthetic damage to petals and blooms and don't threaten the growth of the rose bush itself.

The lifecycle of a thrip completes in two weeks presenting another headache for horticultural produce due to their fast multiplication.

Powdery Mildew

Powdery mildew, as the name suggests, resembles a white, powdery coating on leaf surfaces. If severe, it also might appear on stems and the flowers themselves. Affected leaves eventually turn yellow, then brown. Dead foliage typically falls off the stem, though it will sometimes remain in place. Although not fatal to plants, powdery mildew makes the foliage unattractive and repeated bouts of the disease will gradually weaken the plant. Most fungal diseases are spread by microscopic structures called "spores" that are transferred on wet foliage. However, powdery mildew thrives in high humidity.

Red spider mites

Generally, spider mites prefer the undersides of leaves, but in severe infestation will occur on both leaf surfaces as well as on the stems. They suck the sap of plant tissues. Infestations are most serious in hot and dry conditions. Because they multiply very fast they are able to destroy plants within a short period of time. Spider mites spin silk threads that anchor them and their eggs to the plant. The fine web produced by spider mites protects them from some of their enemies and even from pesticide applications. First symptoms are usually clusters of yellow spots on the upper surface of leaves, which may also appear chlorotic. This gives the leaf a speckled or mottled appearance. Feeding by spider mites may lead to a change of leaf or flower colour. Attacked leaves turn bronze, or rusty, purple or yellow brown colour. The mites are responsible for over 40 percent of all rose yield losses.

Mealybugs

Mealybugs damage rose plants by sucking sap from roots, and the tender stem. They excrete honeydew on which sooty mould develops. Severely infested leaves turn yellow and gradually dry. Severe attack can result in shedding of leaves and inflorescences, reduced rose setting and falling of petals. The foliage and flower may become covered with sticky honeydew, which serves as a medium for the growth of sooty moulds. The honeydew attracts ants, which collect the honey and protect indirectly mealybugs from natural enemies. Some mealybugs inject toxic substances while feeding causing deformation of the plant. Heavy mealybug attack appears as white, waxy masses of mealybugs on stems, fruits and along the veins on the underside of leaves. Heavy infestations usually result in coating of adjacent stems, leaves and fruits with honeydew and sooty mould

Elgon kenya weapons against flower pests

As prices of pest control products escalate and with new pest and disease threats emerging as a result of changes in weather, growers' demand for cheap, environmental friendly and effective crop pest and disease control mechanisms has also gone fever pitch.

Living to its mantra of being a Kenyan company for Kenyans, Elgon Kenya Limited has entered into strategic partnerships and rolled out transformative business models that ensures that growers are able to access these arsenals affordably and with ease. These world class weapons have proven potent and effective in taming the above threats.

The regional powerhouse has for example partnered with respected global manufacturers of these products including Bayer East Africa, BASF, Rusell IPM, Exel Crop Care, Nufarm, Dupont, Chemura AgroSolutions and Cheminova as their distributor in the region. Elgon Kenya's unparaled reach, having the largest network of stockists, coupled with an aggressive marketing department has ensured timely delivery across the country.

Farmers are advised to always read the instructions on the label of the pesticides/insecticides for optimum results.

The Dutch greenhouse technology giving vegetable farming a fresh face

As the country looks to new and innovate ways of producing food with minimum resources like water, fertilizer and synthetic crop protection methods, a new project is breathing new life to that resolve by introducing unique Dutch greenhouse technology as it seeks to bolster farming for business among vegetable farmers.

The project, dubbed Growing Solutions Kenya, is funded by the Dutch government, implemented by a consortium of 12 Dutch technology providers among them HortiMax, Bosman Van Zaal and Koppert and is in partnership with Latia Resource Center where the demonstration greenhouses are located.

The idea behind the programme is to introduce Dutch technology that is adapted to local conditions chief among them automation combined with training farmers and other agricultural officers.

At the Latia Resource Center, which is the local partner, three demonstration plots have been set up where interested farmers are trained on key farming practices including biological pest control methods, hydroponics and economical use of water.

"Water is a scarce resource and with changes in weather we need to be prepared for more acute shortages. This technology means that growers are least concerned about water because the project manages every drop of water through an automated system while taming diseases through a soiless growing technology," said Nico de Groot the Project Manager of Growing Solutions Kenya

Although the project hopes to scale to other vegetables, its premier focus has been on tomato due to the crop's importance in the country. It has been classed as the third most important vegetable in the country in production and consumption with the country having produced 494,036.5 tonnes of tomato with a market value of $15.8billion last year.

Nico de Groot the Project Manager of Growing Solutions Kenya (L), inspecting one of the greenhouses

Three greenhouse systems have been set up to demonstrate to farmers the possibilities for producing high quality tomatoes at high quality levels. Based on different technologies, the greenhouses have been set up to allow smaller, start up farmers to start at a more basic technology setting while offering opportunities for larger, more experienced growers to invest in the next level of greenhouse production technology. "We have the manual, the semi manual and the fully automated greenhouses to allow farmers sample what they feel comfortable with. Of course technology is varied in the three greenhouses and so are the growing conditions," added Mr. Groot.

The manual greenhouse also dubbed the basic module has gutters that are 4 meters from the ground with a fixed ventilation window at the top of the greenhouse. Its sides are open and covered with insect netting to ward off predators. The internal frame is strong enough to support the crop load while crops here are grown using soil. Water and fertilizer are also applied manually through drip lines.

The semi automatic greenhouse which is also called the Plus module is designed similarly to the manual one but provides the option of opening and closing the top vent and side walls. This is done manually. Unlike the basic module water and fertilizer application is automated through a computerized machine FertiMix-Go. This allows for timely and controlled application of fertilizer and water according to a pre set schedule as per the needs of the plants. Crops in this this greenhouses are grown through soil.

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The advanced module which is the superior greenhouse technology of the three is fully automated. Here the internal growing climate is fully controlled by a unique machine known as iSii. The greenhouse has a movable screen to protect the plants and optimize the growing climate. Production is through hydroponics in a 50- 50 per cent mixture of coco peat and pumice.

The project which has attracted farmers from Naivasha, Machakos, Kiambu and Murang'a clusters the farmers in groups of 15 to 20 in trainings that happens once every month for six months before farmers graduate. "We have different training sessions like fertigation, crop management and financial training on crops that can give maximum returns on investment. We also ensure that as much as we concentrate on the theoretical training, we give the farmers as much time as is possible in practicals specifically interacting with the various greenhouse technologies. It is important if we are to ensure that knowledge transfer is effective," Mr. Groot said.

As a health conscious middle class burgeons, dictating the choice of food they take and changes in weather bring new challenges like water scarcity and emergence of new pests and diseases, Growing Solutions project is keen on tapping more farmers into its technology, letting farmers worry less about crop production and focus on other key aspects of value chain like markets.

Field days are open to farmers with short visits costing Sh1500. Farmers interested in training can contact the resource center to learn more about the various packages.

For more information on the project contact:

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Dow Agrosciences launches Closer 240SC to tame notorious pests

Global crop protection powerhouse Dow Agrosciences in keeping with its resolve to develop new and sustainable crop protection solutions that addressed changing times, has unveiled a first of its kind insecticide targeting sap feeding insects, aphids, mealybugs and whiteflies, across a basket of major crops like roses, carnations cotton, leafy and fruiting vegetables and cereals among others.

Dubbed Closer 240SC, the new insecticide is unique, containing an active ingredient Isoclast TM from a new chemical class of insecticides known as sulfoximines in the chemical class 4C. It is the only active ingredient in this class heralding a new way of combating the most notorious insect pests.

In Kenya as is globally sap sucking insects are the bane of growers with some like thrips being responsible for up to 70 per cent of yield losses while causing major economic losses. The less than a sixteenth of an inch long, black slender insect that resembles tiny dark threads when viewed without hand lens, has been Kenya flower farmers' nightmare having left a trail of destruction and losses as it defaces petals making them unattractive to buyers. It has been a herculean task taming the pest with North American origin since it nestles deeply into rose blossoms. It has required varied and intensive control measures key among them the use of insecticides. As a result some of these insects have developed resistance to these insecticides. Numerous studies conducted on Isoclast however have shown that majority of the sap sucking insects that showed resistance did not show any cross resistance with Isoclast. This, owing to the active

ingredient's ability to kill the pests on contact and through ingestion, causing overstimulation of the insect nervous system leading to poisoning and eventually death. The faster knockdown effect is achieved at lower rates with scientists recommending 12 to 150 grams for every hectare depending on the target pest and the crop.

The insecticide which has minimal impact on beneficial insects like bees, kills the pests almost instantly and continues to protect the flowers for a further one to two weeks. It leaves no persistent residues in the soil and does not accumulate.

This prowess hasn't gone unnoticed. In 2014 IsoclastTM won the Agrow Award for the best new crop protection product and an R&D top 100 award for Closer™ 240SC and TransformTM 500WDG formulations, both Dow AgroSciences products.

Notable benefits include:

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- Excellent translaminar and systemic activity
- Effective against insect pest populations resistant to other insecticides
- Valuable rotation partner with other chemistries
- Minimal impact on beneficial insects, including bees and natural enemies, when applicators follow label directions for use.
- Comes in a convenient suspension concentrate (SC) formulation, making it easy to mix and use

The launch of Closer 240SC has received major thumbs up from the Kenya flower industry for its unrivaled potential in addressing growers and markets concerns at a time when changes in weater has led to proliferation of more and new pests and markets have become more sensitive to what they buy.

"The launch of Closer240SC is indeed timely for the industry as growers continue to struggle with pest pressures. It is gratifying to note that the new quality product is dealing with some of the difficult and stubborn pests to manage and keep our production managers awake all night," said Kenya Flower Council CEO Jane Ngige during the launch at Enashipai Spa and Resort in Naivasha.

Mrs. Ngige further added that the fact that the insecticide can be integrated with IPM was a plus to the industry that was looking at integrating hybrid pest control methods which met market requirements while promoting sustainability and protecting the environment.

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By CATHERINE RIUNGU & ALDRIC SPINDLER

Mention the name Red Lands Roses and the Kenya Flower Council CEO Jane Ngige breaks into a passionate smile. The farm, Mrs Ngige has repeatedly said is a couple of years ahead of where the entire sector wants to be in future.

This for a farm that is giving Columbia and Ecuador a run for their money being the only supplier from Africa that is competing in the high priced segment on the strength of the big heads and high quality produce .

Isabelle Spindler, the managing director of the farm based in Ruiru near Nairobi, says there has not been a dull moment in her life for the past 20 years.

"Demand for our roses has been on a steady rise putting a lot of pressure on us", Mrs Spindler said.

She opines that even in a depressed economy, demand for quality will always be there, a reason she attributes to Red Lands success in a highly competitive and demading sector.

The construction of the Southern bypass that links Embakasi and the Thika Road Super Highway is one of the best things that happened to Red Lands Roses. Following the completion of the road, the farm says it is saving up to three hours to deliver flowers to the Jomo Kenyatta International Airport which saves fuel, personnel and vehicle repairs. Mungai, the farm's general manager.

Climate smart greenhouse system that allows fogging automatically every three to four minutes to increase humidity

By a mixture of fortunes, Red Lands has entered comfortably into what had remained a market commanded by the South Americans – the emerging economies of South East Asia that have moved into the rich nations category with a corresponding change in lifestyles. "The rich and newly rich in countries like Japan, Russia, Finland, Kazakhstan, Lativa, Hongkong and China are demanding a higher value product creating a special market for our flowers", she said.

Mrs Spindler disclosed that application of high technology production systems, worker welfare and environmental stewardship are the main drivers of the high prices the farm's roses are fetching.

"Buyers determine the going price of flowers in the international markets and they have put a premium on these three pillars", she said explaining the policies the farm has employed over the years to keep buyers asking for more of Kenya's roses.

She said buyers of Kenya's flowers visit the farm to see a model that is making a name for Kenya in the global flower markets, whose produce fetches close to four times more, yet customers are ready to pay the high price.

Hydroponics

The farm is the pioneer of the soilless technology known as hydroponics where plants are grown in elevated troughs in an enriched media. "In hydroponics, growers avoid soils sparing crops soil-borne diseases therefore less application of chemicals. The result is a healthier crop, a healthier environment and a healthier worker because chemicals negatively affect the three", she said adding that buyers are willing to pay a premium for crops that use systems that protect both people and the environment.

In hydroponic systems, crops also use less water because intake is limited to what is required and the excess recycled for replenishing with nutrients. The system is computerized in such a way that water is released only on demand. " In hydroponics, water savings are 80 per cent compared to conventional methods," she said adding that in a water-deficit world, saving the commodity has become a premium selling point in the global markets.

Using less water translates to saving on the energy required to pump water as well as keeping more of the commodity in the river. Hydroponics prevents drainage of polluted water into the aquifer since non runs off the troughs. "It takes longer to clean underground water for flower growing and hydroponics spares farmers the effort and cost", said Mrs Spindler who added sadly, "Africa has the biggest aquifer but it is highly polluted". In hydroponics, there is no leaching and growers use half of fertilizers.

Isabelle Henin and Aldric Spindler, directors of Red Lands Roses spinning high quality flowers from Kenya to the world

The farm is located in what was once a rock calling for establishment of raised beds and embracing technology to grow in a place where food wouldn't- Isabelle Spindler Managing Director Red Lands Roses

Mrs Spindler says the initial cost of establishing a hydroponic system is intensive but it pays in the long-term. The bad or the good news depending on how you look at it is that in some countries, she said, it will be forbidden to grow horticulture outside hydroponics.

The choice to go hydroponics for Red Lands was out of necessity. The farm is located in what was once a rock calling for establishment of raised beds and embracing technology to grow in a place where food wouldn't. "We don't compete with growing of staple food here", Mrs Spindler said emphasizing that the development is a good way of utilizing barren land. "The advantage is we go for high value crops that give us money to buy food", she said.

The farm has constructed a wetland where waste water is discharged and cleaned naturally by plants like water lettuce, Nile cabbage and papyrus. "All the water used in showers, workshops and pack houses is piped into the wetland through gravity.

Fairtrade

The farm is Faitrade certified, meaning customers buying from this network have committed to paying extra for the premium flowers, and the extra is put into improving workers welfare.

Red Lands is putting the fair-trade funds into staff children education where it is paying for two children's fees for each staff. "The result is royalty that has resulted into producing better flowers, Mrs Spindler said adding, "a buyer can always tell a bouquet prepared by experienced hands, which is why we are investing in staff retention."

According to Mrs Spindler, staff turnover at the farm is low, a development she attributes to the closeness that has been forged between the management and workers, where a relationship like that of an extended family has been created. She says that the farm pays the highest wages in the industry although she didn't disclose the amount.

Red Lands Roses has joined the Total Eco Challenge to boost its tree cover. "Our goal is to grow 1,000 trees every year," said Mrs Spindler. The farm has set aside a tree planting day in which staff plant both indigenous and exotic trees.

"Twenty years ago when we arrived here, there were no trees, only one harmer kop. Today we have planted 7,000 and changed the environment as you can see, into a mini-climate," said Daniel Kibe, the officer in charge of environment at Redlands Roses adding, ''These trees are a living testimony that afforestation can turn even the remotest region into a lush". The exotic tress have been planted and harvested as they mature, and some given to staff for use as firewood.

The tress and accompanying vegetation has brought back wildlife like birds and snakes. "We even have attracted the deadly cobra!", he said. Others are gazelles, dick dicks and wild rabbits, mongoose as well as hippos. "Here we live in harmony with nature, which shows that when the environment is taken care of, everything else falls into place", said Mrs Spindler.

IPM

In tandem with environmental and worker welfare, Redlands Roses employs Integrated Pest Management in its farming systems. "This is the science of controlling pests, weeds and diseases holistically using nature", said Mrs Spindler.

The firm works closely with Dudutech and Koppert in the continuing efforts to identify insects that feed on insects to eliminate enemies.

The best example here is the use of phytoseilus to control mites, eliminating application of miticides. "The insect doesn't feed on plants but systematically eliminates the mites. Miticides are heavy chemicals that affect crops therefore reduction in spraying gives a healthier plant", she said. Scouting for the presence of the mites is always done before the predators are released. To avoid the presence of many phytoseilus in a greenhouse, the tiny insects, that cannot be seen by a naked eye are harvested and stored in a container in a refrigerator where they mute until the next use.

Integrated Pest Management: Use of sticky traps to determine mode of pest control

The use of the natural enemies is informed by the benefits accruing. "If you don't spray too much, you attract beneficials who colonize the ecosystem giving you healthier plants and a natural balance. It is also better for people working in the greenhouses as they are exposed to lesser chemicals. Plants are like humans. Too many pills weaken the immune system, and stress the body. The same applies to plants.

Post harvest water recycling

Tremendous savings in postharvest water handling is what Red Lands Roses, the first farm to install the ultra water purification system for flowers reports, two years later.

"The positive impact on the environment, cannot be quantified, it is great," said Mr Henin Spindler. The savings on water are massive considering the need to frequently change the commodity as flowers require feeding on high quality water for shelf-live and sanitation. The quality of water too has improved a great deal due to the high degree of filtration.

"Water is a scarce commodity whose usage must be minimized, and this is a big advantage from this system. The same applies to energy. Flower farms have been throwing away already cooled water and going back to cool more consuming increased power. This system uses less postharvest energy," said Brandon Barbour of Pure Water Solutions.

Another big saving is on post-harvest chemicals, estimated at 80 per cent. The big saving is not only for the farm, it also for the environment, and working backwards, the entire chain from manufacturing to disposal. "We are no longer releasing the chemicals to the wetland like before, we are consuming less which effectively reduces the cost of transportation and manufacturing to the benefit of the environment', Mr Spindler said. One the other savings is time that has reduced from 8 minutes to fill a bucket to under 11 seconds while only one person is assigned to the task freeing labour to other sections of the farm.

Reverse Osmosis one of the flagship water recycling technologies at Redland Roses

Before the system was switched on, buckets would be kept overnight in the cold room to cool, today it's as simple as a cut and paste job.

Mr Spindler is happy that Red Lands Roses pioneered the system, giving the farm another first. The system augments Red Lands Roses premium flowers that are priced highly for a unique production environment that takes extra care of workers, environment and communities. Calling the system a super machine, he said it takes a year to pay back its investment, and for all its benefits to the environment and cost savings, it is worthy investing in.

In an interesting turn of events, the farm has become a study tour zone for those interested in seeing the system at work. "We are receiving so many visitors, we didn't realize it was going to become a tourist attraction", he mused.

She came, she saw, she conquered

Jane Ngige took over at the helm of the Kenya Flower Council, when the industry was a hot potato with flower companies under the bane of negative publicity by both local and international media.

By BOB KOIGI

To the world tenacity is just another word, but to Jane Ngige it is her guiding mantra, the philosophy that has seen her chaperon Kenya's flower industry for ten years, the longest serving CEO, changing negative perceptions while steering it to unprecedented records.

Mrs Ngige took over at the helm of the Kenya Flower Council, when the industry was a hot potato with flower companies under the bane of negative media publicity by both local and international media. 'Bleeding roses', 'cash crop reaps hunger destruction' were common headlines then. Mrs. Ngige's friends advised her against taking over arguing that this would destroy her career. "But I couldn't find any concrete and hard evidence that the industry was in such serious trouble. There is nothing we couldn't fix. Something inside me told me I needed to do this. I decided to turn a deaf ear to the advice and naysayers. This was my calling, and I couldn't forgive myself if I turned my back on it," Mrs. Ngige said.

Her friends by then had given her six months to survive at the Council. She however got the motivation to shepherd the industry to new heights when she found that players had started working on a code of conduct. Her background in quality management services made running the industry easy. "When I took over the Council, I realized that the biggest problem was information gap. The reason the industry was receiving a lot of bashing by the media is because players were not willing to open up about their operations. The media therefore went with anything they could lay their hands on. I made information access my first assignment. I am glad it has paid off" said Mrs. Ngige. That first assignment included taking a van full of journalists to two Naivasha based flower farms. "You could see the enthusiasm the press had in the questions they asked and the interest they took on the farms' operations. It was a step in the right direction," added Mrs. Ngige.

Quality fires her missionary zeal having previously worked at the Kenya Bureau of Standards and as a consultant on quality management systems. She has steered the industry to embrace the highest levels of compliance on workers welfare, conservation of environment and quality of product which has seen the country take pride of place at international markets.

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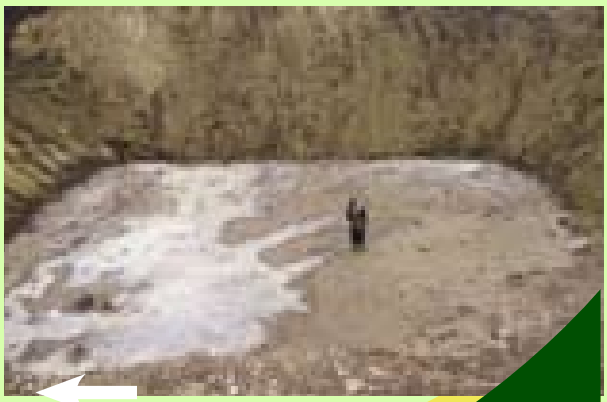

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In the ten years under her stewardship the industry has had its highs and lows but has remained consistent in its pursuit for quality. Jane nostalgically recalls some of the most defining moments of the industry. "One of the landmark moments at the helm of the Council was in 2005, when as flower unions from East Africa we met with the Dutch Inspectorate to review flower inspection guidelines. Traditionally our flowers were subjected to 100 per cent inspection for compliance with growers bearing the cost. This was quite tasking for our members. After intense lobbying and demonstrating to the inspectorate that we observed the highest levels of good growing practices, we managed to get the inspection revised to five percent which was a plus to the growers in cutting cost," Mrs. Ngige recalls.

She also recalls the historic signing of the Economic Partnership Agreements in 2007 and the active role that the Council played in the successful negotiations. The new protocols allowed the country's horticultural produce enjoy duty-free access to the European Union market.

In 2012 Mrs. Ngige recalls what she described as a key moment for the industry when the Council partnered with the Kenya Private Sector Alliance, KEPSA, to launch the flowers for peace campaign, a national effort to encourage people to be peaceful in the run up to the general elections. "We were trying as much as possible to ensure that we don't experience another bloodletting like we did in 2007. Flowers communicate loudly and that was the idea behind the campaign. It is one of the moments I cherish because we managed to reach and touch thousands of lives and the 2013 elections went on smoothly," said Mrs. Ngige.

But the industry has had its fair share of hiccups and setbacks at times sapping the energy of Mrs. Ngige the strength of her conviction and the righteousness of her cause has seen her weather the storm. Her most vivid is the post election violence of 2008 and the beating the industry received, one she says shook her to the core. "I still recall it like it happened yesterday. I was seated alone in my office at Lavington. Calls kept coming about how trucks ferrying flowers to the airport were stuck in Naivasha as roads had been barricaded. The industry was receiving a hammering and it pained me because there is nothing I could do. There were thousands of workers who despite everything that was going on decided to keep on working. I needed to do something about them. I didn't know what, but somehow I had to take charge," Mrs. Ngige recalls pausing in between the interview the emotions of that period written all over her face.

She called the then Police Commissioner Major Gen Hussein Ali pleading with him to provide security for the flower trucks. "Jane, people are dying and all you can tell me is to provide your trucks with security? Are you serious?" Mrs. Ngige recalls Major Ali's response to which she replied to him that if he wanted another 30,000 people in the streets for lack of jobs then he was free not to provide security. General Ali swung to action by allowing heavily armed policemen escort the flower trucks. "How we survived that phase was through God's grace. It will always remain the lowest point of the industry especially because Naivasha was the epicenter of the chaos," Mrs. Ngige added.

The 2010 volcanic ash eruption in Europe was another bumpy moment for the industry. With flights suspended Mrs. Ngige knew the industry would receive another major hit. "I remember being in one of the flower farms in Naivasha at the time. Trucks that had been sent to the airport were returning the flowers. I saw these workers offloading the flowers as they cried. Their livelihoods were at stake, and they knew it. And although it was resolved a few days later the images of workers shedding tears because they care about what they do really moved me," she said.

So what keeps her awake at night? Living the dream of the Council's founder members fires her passion. She lives to ensure that every member take to heart the Council's philosophy of growing flowers responsibly. That has meant keeping a beady eye on the goings on in the flower farms and having her pulse at the industry including tracking what the markets are saying. A woman of formidable purpose and drive, her talismanic leadership has seen the Council's membership grow from the initial 30 to the current 100, positioned the industry as one of the largest foreign exchange earners for the country while positioning the brand Kenya flower, one that is high quality and responsibly grown. "When I leave office, I want the industry to remember me for my pursuit to encourage quality and responsible growing. It is heartwarming to see how growers have responded well to this call," added Mrs. Ngige.

As the Council celebrates 20 years of its existence Mrs. Ngige sees it as two decades of tenacity, hard work and resilience which she says have been rewarding and hope it will get even better.


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The changing face of greenhouse technology

In the late 1980s Amiran brought consultants from Israel to advise the future flower growers of Kenya on the adoption of large scale greenhouses

By BOB KOIGI

A booming agribusiness sector, vanguard farmers keen on maximizing yields and vagaries of weather have been behind the burgeoning uptake of greenhouses in the country. This uptake, traditionally a preserve of large companies has inspired new innovations like automatic greenhouses with sensors that monitor climatic conditions like humidity and correct these conditions without human involvement to those that alert growers remotely when to water greenhouses.

The drivers of the greenhouse technology has been the flower industry having embraced it in the 1980s. Then greenhouses were basic wooden structures that were heavily priced making them a preserve of the big flower companies. "When we first set up the farm some 20 years ago, we grew our flowers in wooden greenhouses because that was the technology that was available then. It is interesting how fast the technology has evolved over the years and the difference it has made in flower production," said Isabelle Spindler the managing director at Redlands Roses.

At the heart of greenhouse innovation in Kenya is Amiran Ltd which introduced the first greenhouses in the country while offering agronomic support for flower growers.

In the late 1980s the company brought consultants from Israel to advise the future flower growers of Kenya on the adoption of large scale greenhouses, which today are part of Kenya's heritage as they symbolize Kenya's position as the leading floriculture producer in the world.

Continuing with this 'hands on' approach, Amiran helped to build the first flower farms in Kenya, complete with greenhouses and advanced irrigation systems at the time and has since erected 90 percent, 2700 hectares of the 3000 hectares of greenhouses in Kenya.

The company has since trained its team of Kenya professionals to do the same construction with the same precision, care and technical knowhow. "It has been a heartwarming experience watching the kind of reception greenhouse technology has received especially among flower growers who form the bulk of the greenhouse owners. And as the technology continues to evolve we can only predict more uptake and easier means of flower and crop production in the country," said Shay Nir, Head of Agro Projects, Amiran Kenya.

With flowers being an all year round crops, greenhouses have come in handy for growers guaranteeing them of uninterrupted production while taming pests and diseases. But flower growers have also embraced innovations in greenhouses to suit their production needs, while maintaining the highest levels of flower quality.

Growers like Oserian Development Company have embraced geothermal heating technology in their greenhouses to enhance flower growth and tame pests and diseases

At Redlands Roses, one of the growers celebrated for its top notch technology an automatic technology controls the opening and closing of the greenhouse roof to allow sunlight. This is complemented by another technology that embraces fogging, the spraying of water to increase humidity in the greenhouse. The company's largest greenhouse, Zulu, sits on 4 hectares.

Oserian Flower Farm has also taken growing their greenhouse flowers a notch higher by operating the largest geothermal greenhouse heating project in the world to produce 216 hectares of roses, carnations and statice.

The company uses the steam to sterilize and eliminate fungus from the water that is piped to the plants. The intensive use of geothermal energy and the application of innovative growing techniques have made Oserian Development Company a world leader in its field.

A low output exploration well located on Oserian Farm in the Olkaria geothermal field is used to supply geothermal heat to a greenhouse complex. Heating controls night-time humidity levels in the greenhouses, thereby alleviating fungal disease and enhancing flower growth. The non-condensable gases, predominantly CO2) produced from the well are used to enrich the atmosphere in the greenhouses, further enhancing flower growth.

"Flower production is no mean feat and with competition in the country and among other flower producing nations heating up growers leave nothing to chance. Markets have warmed up to the idea and it is interesting the kind of overwhelming request we get. It is also interesting to also see how fast the greenhouse technology is evolving buoyed to a great extent by need to grow flowers responsibly," added..

His sentiments are echoed by Mrs. Spindler who posits that the kind of greenhouse technology is dictated by growers need to produce high quality flowers at lower costs. "We are talking about cutting cost of producing the flowers without compromising the quality of flowers. At Redlands Roses that has been our guiding mantra. We therefore strive to embrace the latest greenhouses that help us achieve this goal. We are also always keeping tabs on the dynamics of greenhouse technologies," said Mrs Spindler.

From the wooden greenhouses with archaic covering, to the current greenhouses comprising of plastics and multiwall sheets of polycarbonate material, industry players now believe as demand for flowers continue to grow and as the need to utilize space and maximize on quality the technology will only get better. "These are interesting times with market demands predominantly driving the evolution of greenhouse technologies. In future as this demand grows we look forward to more sophistication and quality," said Mr Nir.

Greenhouse technologies have been driven by growers need to produce high quality flowers at lower costs

Welcome to IFTEX 2016

By DICK Van RAAMSDONK

Today it gives me immense pleasure to welcome you all to the 5th edition of the International Flower Trade Expo (IFTEX 2016) that opens here in Nairobi this morning.

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

2016 is a special year for IFTEX as it marks the fifth year since the show was launched in 2011. In addition, several celebrations and important meetings have been planned by other flower industry stakeholders to coincide with the fair, attesting to the growing importance of the event to the sector.

The Kenya Flower Council is celebrating its 20th anniversary and its global counterpart Union Fleurs (Union of International Flower Associations) will hold its Annual General Meeting during IFTEX this week here in Nairobi.

Due to the great interest of existing exhibitors to participate again, but also many new companies and the invitation to flower growers from surrounding countries, IFTEX has extended its exhibition space with another 4,000m² bringing the total exhibition area to 10,000m², attesting to its year on year growth.

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

The exhibition reached the number one position as the largest cut flower trade fair in Africa in 2014 and has again rubberstamped this lead by surpassing the 2015 record, affirming its continued improvement since the inaugural show.

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

When I started a show in this beautiful country, I had no doubt in my mind it would grow into one of the leading flower fairs in the world but I hadn't envisaged its running this fast.

Not only do we have over 220 companies exhibiting more than 3,500 national and international trade visitors are attending this year, bringing the number of participating countries to at least 60.

Exhibitors include growers & exporters, brokers, breeders, propagators, suppliers and other flower industry related companies. Visitors include international flower buyers and flower growers. Both profiles are the prime targets of the event. The exhibition itself has grown 15% in size, is accommodating 20% more exhibitors and expects 10% more visitors, compared to last year, by the time it closes on Friday.

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

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

I like to thank all exhibitors and visitors for their presence in the fair and hope that all will return home with excellent results and look forward to meeting you again for the next IFTEX.

Email : dick@hpp.nl

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Wesley Rotich the Managing Director of Paksons Limited receiving a trophy during the National Farmers Awards organized by Elgon Kenya Limited and the Ministry of Agriculture, Livestock and Fisheries, franked by East African Community, PS Betty Maina, Kenya Flower Council CEO Jane Ngige (partly hidden), and Elgon Kenya directors Baiju Kantaria and Bimal Kantaria

The Award-winning agrovet dealer

Paksons Enterprises Limited has built a name and business as an award-winning agrovet dealer that has captured markets while positioning itself as the answer to farmers' problems. Managing Director Wesley Rotich talked to *Hortinews* about actualizing his father's vision into an agricultural power-house, how to run a family business, the place of Paksons Enterprises Limited in addressing Kenya's food sufficiency and the company's future prospects.

What informed the name Paksons?

Paksons is an abbreviation for Philip Arap Koech & Sons

Why an agrovet and not, say, hotel? What was the motivation to start this business?

Our dad was an agriculturist by training and had a great passion to serve the farming community

How is it owned, family business etc?

It is a family business and was incorporated in 2000 as a limited company under the Company's Act Cap 486.

How much was its startup capital?

It was started as a sole proprietorship by the late Philip Koech using savings from his employment and the farm, which kept poultry, dairy and horticultural crops, mostly vegetables like tomatoes, potatoes, kales and cabbages in the 1970s. Later the company was incorporated with a startup capital of Sh100, 000 in 2000.

How did the business rise over time?

Through sheer hard work, determination and perseverance by its owners, it has grown albeit all the challenges.

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www.paksons.com

Digital farmer and Paksons Enterprises Limited Managing Director Wesley Rotich. The company serves 200 farmers and 500 stockists

Who are your oldest customers, those you started with from scratch? Are they still with you? If yes, why do you think they have remained loyal?

We have many customers who have grown with us and many can bear testimony that they have benefited from our services. We remain focused and determined to grow with our dear farmers now and into the future.

Tentatively, how many customers do you serve now?

On average 200 farmers daily and about 500 stockists.

What is the greatest achievement for the enterprise?

Our greatest achievement is being able to contribute to the economic growth of our country, albeit in a small way. We have been able to employ 75 people directly and 1,500 indirectly through the value chain.

How is its profitability and how has it risen over time?

We have had good and bad times but by and large most of our profits have grown and the business continues to grow.

What are your challenges within and outside the business?

Cost of finance and lack of adequate and affordable credit to finance our operations. There has also been increased competition over the years. We have faced growth related challenges, too.

What would you tell anyone starting an agrovet if they asked for success tips?

Honesty and integrity are key to the success of any business. You also need hard work, determination and financial discipline.

What is your next big plan for the business?

Taking the business to the next level with the right people given the right infrastructure and financial support.

The company is desirous and open to any funding opportunities that enable it to achieve its goals of changing the cause of humanity by providing sufficient food in every Kenyan home, the continent and globally. The logic is if we are able to feed ourselves then we can feed the world.

What are your short-term and long-term goals?

To provide exceptional farming solutions and services by exceeding the expectations of all our customers; become the partner of choice while serving the Kenyan farmer, and the business community at large. By this we mean that we will treat our customers as valued individuals and provide prompt services and solutions every time.

We we will always listen to our customers, so as to identify and address their needs correctly the first time while focusing on creating value for our customers through efficient, affordable farming solutions and services.

Our customers and suppliers/ business partners will always be assured of the highest degree of integrity and ethical standards in the services we provide.

Our vision, therefore, is to remain focused to grow into a self-sustaining, self reliant, reliable, efficient entity both in product and service delivery; more importantly, be socially conscious to all around us. We will also strive to achieve quality service delivery in all areas of operation. In a nutshell, to be a company of the future ❐

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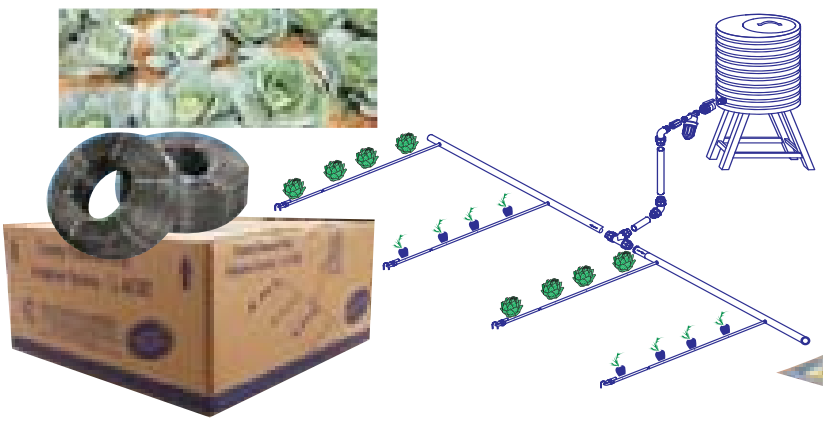

Seeds

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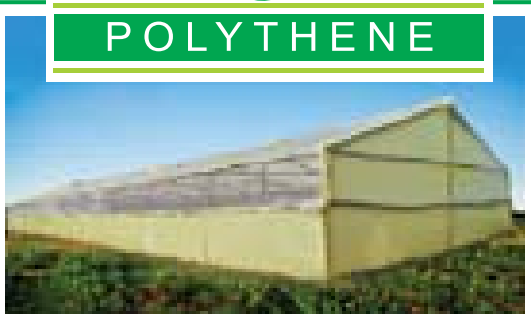
Green House

POLYTHENE



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IPM milestone in Kenya- Dudutech takes the lead!

Emily Lusweti International Sales Manager Dudutech emily.lusweti@dudutech.com

By EMILY LUSWETI

Kenya has seen significant growth in the horticulture subsector in the last two decades to make it one of Kenya's top foreign exchange earners, employers as well as contributors to the food basket of Kenyan households. Although there is a wide diversity in the subsector ranging from geographical region, farm size, type of crops and markets, horticultural growers across the country face the same challenges in terms of pests, diseases, market/consumer demands, restrictions from various lobby groups and industry regulators. Farmers have remained extremely resilient and focussed on achieving excellence in crop production, despite the challenges.

One of the greatest challenges remains to be crop husbandry – ensuring that the crops produced are of the highest quality and meet and perhaps surpass the industry standards to ensure profitability and sustainability. In the past, farmers traditionally practiced integrated crop management (IPM) techniques including cultural, physical and chemical control practices; however pests, diseases and nutritional deficiencies still remained a never ending vicious cycle of resurgence, resistance development and environmental pollution. Up until the late nineties, this was a lost battle for farmers until the biological component of IPM was introduced into farming systems.

Dudutech pioneered biological control in Kenya 16 years ago by introducing Diglyphus iseae to control leaf miner, which at that time had gained resistance to synthetic insecticides. Additionally, there was increasing concern from the consumers that fresh produce still contained high levels of toxic pesticide residues which were finding their way into our bodies and also into the environment. Growers were under pressure to produce fresh produce with minimal chemical residue and of high quality and in the right quantities.

Diglyphus iseae was very successful in controlling the leaf miner on our own farms; and this spurred more ventures into biological pest control, the next product being *Phytoseiulus persimilis* to control the Red Spider Mite, which was a major pest in flowers. This was very successful too and saw a reduction in pesticide usage by up to 70% on our own farms. However this success also came with challenges because with biological control there was a shift from highly toxic broad spectrum synthetic pesticides with long residual effects to target specific low toxicity pesticides with short residual effects. Pests that were never considered to be a problem such as Thrips, Mealybugs, Whiteflies and Aphids soon became serious pests.

To begin with, uptake by growers across the country was slow due to lack of sufficient knowledge about integrating biological control in the production systems and lack of biocontrol products that target all the pest, disease and nutritional problems. Dudutech took up this challenge and developed standard and tailor made courses for growers with the aim of giving skills, knowledge and the confidence to make ecologically, socially and economically sound decisions on plant health. Additionally, Dudutech made substantial investments in developing a wide range of biocontrol products that tackle plant pests, diseases, plant nutritional deficiencies as well as soil health problems.

16 years on, Dudutech can now offer farmers the ultimate 360o crop protection solution with more than 30 biological control products on the Kenyan as well as international market and a promise to keep researching and bringing on the table more solutions for plant health developed *"by growers, for growers"TM.*

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Dudutech started with one product in 2001

2001

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fast-forward

to today and we are the leading IPM provider in Kenya.

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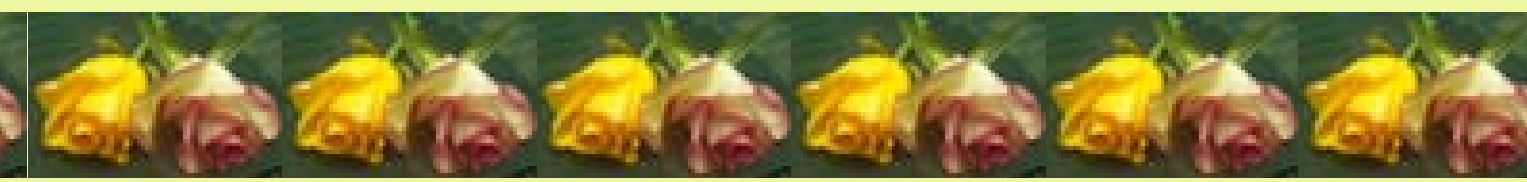
Kenya Flower Council Grower Members

NO.	COMPANY	TYPE OF FLOWER	PHYSICAL ADDRESS	TELEPHONE	E-MAIL ADDRESS
1.	Africalla Lilies Ltd	Zantadeschia	P. O. Box 709 Village Market.	066 – 76453	sales@africalla.com
2.	Afriscan Kenya Ltd	Hypericum	P. O. Box 82 - 00206 Kiserian	0722711925	Charles.mwangi@afriscan.co.ke
3.	Annak Ltd (Manda Orchids)	Cymbidium orchids	P.O. Box 52494 -00200Nairobi	0724 955 232	mwende@mandaorchids.co.ke
4.	Aquila Dev. Co. Ltd	Roses	P. O. Box 66743 – 00800 Nairobi	0722-2006130	info@aquilaflowers.com
5.	Baraka Roses Ltd	Roses	P.O. Box 58013 -00200Nairobi,	0716334791	info@barakaroses.com
6.	Batian Flowers Limited	Roses	P.O. Box 266 – 10406Timau	0 20 2047462	rene@batianflowers.com
7.	Beautyline Kenya Limited	Roses	PO Box 2035 - 20117 Naivasha	050 50116	amnon@beautyli.com
8.	Benev Flora Ltd	Hypericum	PO Box 920- 20117 Naivasha	0722 318 793	johnndungu@benevflora.co.ke
9.	Bilashaka Flowers Ltd	Roses	PO Box 2040, 20117 Naivasha	050 50623	bilashaka.flowers@zuurbier.com
10.	Bigot Flowers (K) Ltd	Roses	P.O Box 2039 - 20117Naivasha.		jagtap.kt@bigotflowers.co.ke
11.	Black Petals Ltd.	Roses	P. O. Box 19246 Nairobi	020-2017706	info@blackpetals.co.ke
12.	Blooming Africa Ltd	Hydrangeas, Delphiniums	P. O. Box 668 – 20116 Gilgil		
13.	Bloomingdale Roses K. Ltd	Roses cut flowers	P. O. Box 48876 - 00100Nairobi	0738500666	utkarsh@bloomingdaleroses.com
14.	Bullgate Company Ltd	Arabicums	P. O. Box 144 - 01013Gatura	0719 841902	bullgatekenya@gmail.com
15.	Chain Creek (K) Ltd	Agapanthus	P. O. Box 265 - 20318 North Kinangop	0701 730 133	chaincreeck@yahoo.com
16.	Charm Flowers Ltd	Lisianthus	P. O. Box 51398-00200 Nairobi	0733573149	info@charmflowers.com
17.	Desire Flora Ltd.	Roses	P. O. Box 32111 – 00600 Nairobi	0722 473312	info@desireflora.com
18.	Fairly Flowers Kenya Limited	Schlumbergeras , rhipsalidopsis	P. O. Box 63276 – 00619Nairobi	020-201 7282/3	info@lathyflora.com
19.	Fides Kenya Limited	cuttings, chrysanthemums & pelargoniums	P. O. Box 1175 - 60100 Embu	0713 715 283	info@dummenorange.com
20	Finlay Flowers Ltd	Roses; Standard Carnations; Spray Carnations, Freesia, Alstroemeria, Gypsoppilla, Zantadeschia, Solidago, Leather leaf fern.	P. O. Box 1966 Kericho20200	052 – 30471	Steve.Scott@finlays.co.ke
21.	Lemotit Farm			052 30294	
	Flamingo Horticulture Kenya Ltd	Roses, Standard carnations; Gypsophilla, Gemini, Oriental lilies, Asiatic hybrid lilies, Longflora lilies, Longi Asiatic lilies, Gerbera, Solidago,			
22.	Flamingo Farm				
23.	King Fisher Farm				
24.	Siraji Farm				
25.	Ibis Farm				
26.	Flora Ola Limited	Summer Flowers and Roses	P.O. Box 72133 - 00200 Nairobi	0202212120	floraolaltd@gmail.com
27.	Florafresh Kenya Ltd	Gypsophilla, ammi visnaga	P. O. Box 296 - 20117Naivasha	0723 253 356	florafreshk@gmail.com
28.	Florensis (K) Ltd	Cuttings	P. O. Box 1896 Naivasha	050 – 2021477	florensis@florensis.co.ke
29.	Gatoka Ltd	Roses	P.O. Box 404 Thika 01000 Kenya	067-44222	gatoka@swiftkenya.com
30.	Grandiflora		P. O. Box 709 Village Market.	066 – 76453	info@africalla.com



NO.	COMPANY	TYPE OF FLOWER	PHYSICAL ADDRESS	TELEPHONE	E-MAIL ADDRESS
31.	Groove Ltd	Roses	P.O. Box 1322-20117 Naivasha	050-2021148	groovekenya@gmail.com
32.	Harvest Limited	Roses	P.O. Box 60158 Nairobi	020-804 6693	harvest@harvestflowers.com
33.	Highlands Plants Limited	Perreniall Crops and Herbs	574-20303 Ol kalao	0734746510	admin@highlandplants.co.ke
34.	Imani Flowers Limited	Limoniums, Gypsopgilla, Ammie, Kangaroo	P. O. Box 1184 - 00606Nairobi	0724 629897	roy@imaniflowers.co.ke
35.	Isinya Flowers	Roses	P. O. Box 1016 – 00606 Nairobi	045 – 213800	info@isinyaroses.com
	Kariki Group				
36.	Bondet Limited	Hypericum; Eryngium , F1 Hybrid seeds.	P.O Box 1076 Nanyuki 10400	062-2031023/	richard@kariki.biz
37.	Hamwe Limited	Hypericum	P.O Box 791-20117 Naivasha	050-50388	richard@kariki.biz
38.	Hamwe Ltd. – Molo Farm	Hypericum, Eryngium, Agapanthus	P. O. Box 955 – 20106 Molo	020 2028039	richard@kariki.biz
39.	Kariki Ltd.	Hypericum	P.O Box 6038-00100 Thika	0723-579562	richard@kariki.biz
40.	Kimman Roses Limited	Gypsophilla	P.O Box 879 - 00100 Nairobi	0721 734104	kimmanexp@gmail.com
41.	Kisima Farm Ltd	Roses	P. O. Box 64 Timau 10406	0727-534640	flowers@kisima.co.ke
42.	Lathyflora Ltd.	Carnation cutting	P. O. Box 63276 Nairobi	066 – 76004	info@terrasolkenya.com
43.	Lauren International Flowers Ltd		P. O. Box 10373 - 00100Nairobi	0722525683,	laurenflowers@accesskenya.co.ke
44.	Live Wire Ltd	Roses, Hypericum	P.O. Box 791-20117, Naivasha	050-2020050	info@livewire.co.ke
45.	Lolomarik Limited	Roses	P O Box 255 -10406Timau	0722206173	simon@lolomarik.com
46.	Maaskant Flowers Limited	Ornithogalum, craspedia, eryngium, scabiosa, green calla,	P O Box 1945 – 20117Naivasha	0722915 595	maaskantflowers@gmail.com
47.	Magana Flowers Kenya Ltd	Roses cut flowers	P. O. Box 14618-0800 Nairobi	0733-615-035	sales@maganaflowers.com
48.	Maridadi flowers ltd	Roses cut flowers	PO Box 1800-20117Naivasha, Kenya.	+254 50 50430.	farm@maridadiflowers.com
49.	Mosi Ltd	Roses cut flowers	P. O. Box 70146 Nairobi	067- 52146	transebel@africaonline.co.ke
50.	Mt. Elgon Flowers Ltd	Roses, Spray carnation ; Standard carnation,	P. O. Box 124 Kitale	054 – 31458 / 60	info@mtelgon.com
51.	Mult Grow Investments	Summer Flowers	P.O. Box 49 - 20319South Kinangop	0724977259	5growers09@gmail.com
52.	Mweiga Blooms Ltd	Roses Mzurrie Farms	P.O. Box 2476 – 00621	0202379944 0722 203630	info@mweigablooms.com
53.	Maji Mazuri Flowers Ltd	Roses	P. O. Box 7640 – 30100 ELDORET	0722 203 631	majimarketing@majimazuri.co.ke
54.	Molo River Roses Ltd	Roses	P. O. Box 542 - 20100 Nakuru	0705400400	info@moloriverroses.co.ke
55.	Winchester Farm Ltd	Roses	P.O.BOX 15139-00509Nairobi	020 2679938	info@mzurrieflowers.co.ke
56.	Nathe Enterprises Ltd	Agapanthus	P. O. Box 426 - 00605Uthiru	0722 819 826	jtnjoka@gmail.com
57.	Nini Ltd	Roses	P. O. Box 569 Naivasha	050 – 2021165	admin@niniltd.com
58.	Ol Njorowa Ltd	Roses	P. O. Box 879 Naivasha	0725617361	info@olnjorowa.com
59.	Oserian Dev. Co. Ltd	Fresh C ut Flowers- Roses Carantion Fillers	P. O. Box 209-20117 Naivasha	0722509600	info@oserian.com
60.	Plantation Plants K. Ltd		P. O. Box 1909Naivasha	0202027246	purchasing@plantationplants.com
61.	Penta Flowers Ltd	Roses	P. O. Box 40452 – 00100 Nairobi	020 2145291,	bryan@pentaflowers.co.ke,
62.	Petra Flora Company Ltd		P. O. Box 25636 - 00603 Nairobi	0720 912128	gilbert@petraflora.com

NO.	COMPANY	TYPE OF FLOWER	PHYSICAL ADDRESS	TELEPHONE	E-MAIL ADDRESS
63.	P. J. Dave Flower Ltd	Roses	P. O. Box 18436 Nairobi	045 – 21381	pjdaveflowers@pjdave.com
64.	P. J. Dave Flowers Ltd - Timau	Roses	P. O. Box 18436 Nairobi	045 – 21381 / 82	mangeshrasam@pjdave.com
65.	PJ Flowers Limited	Arabicum, tuberoses, eryngium	P. O. Box 14725 – 00800 Nairobi	66 2022160	pjflowers@wetfarm.co.ke
66.	Rimi Flora Ltd		P. O. Box 11 - 20115 Egerton	0722 357678	richard@rimiflora.com
67.	Syngenta - Kenya Cuttings Ltd.	Cuttings	P. O. Box 27774 - 00506Nairobi	0733523 918	info.kenyacuttings@syngenta.com
68.	Syngenta - Pollen Limited	Cuttings, Seeds	P. O. Box 1037- 00232Ruiru	0724-255 863	info.pollen@syngenta.com
69.	Panacol International Ltd	Cut flowers	P. O. Box 982 - 30200Kitare	0721 637311,	pwekesa@africaonline.co.ke
70.	Primarosa Flowers Ltd.	Roses	P. O. Box 540 -00204 Athi River	0733-618354;	mvishal@primarosaflowers.com
71.	Primarosa Zuri Ltd.	Roses	P. O. Box 255 Ol Njororok	0736 410709	anand@nyh.primarosaflowers.com
72.	Prime Flora Limited	Summer Flowers	P. O. Box 1616 - 20100Nairobi	0722977214	moses@primefloraltd.co.ke
73.	Rain forest Farmlands Kenya Ltd	Roses	P. O. Box 2522 - 00606Nairobi		jkamau@fleurafrica.com
74.	Red Lands Roses Ltd	Roses cut flowers	P. O. Box 10 –Ruiru 00232	0722 509 293	info@redlandsroses.co.ke
75.	Riverdale Blooms Ltd	Roses	P. O. Box 78281 - 00507Nairobi	0722 584 867	rdale@swiftkenya.com
	Sian Agriflora Farms	Roses	P. O. Box 15139-00509 Nairobi	020 2170540	jos@sianroses.co.ke
76.	Agriflora Kenya Ltd			0723159619	
77.	Equator Flowers Ltd			0728961961	
78.	Maasai Flowers Ltd			020-891089	
79.	Simbi Roses	Roses	P. O. Box 769 Thika	020 252 8416	simbi@sansora.co.ke
80.	Subati Flowers Ltd	Roses	P. O. Box 25130-00100-Nairobi	020 – 2048483	ravi@subatiflowers.com
81.	Suera Flowers Ltd	Roses, Zantadeschia	P. O. Box 62599 Nairobi	0202055800	suera.flowers@gmail.com
82.	Terrasol Ltd	Geranium, Fuchsia Margaritas	P. O. Box 63276 Nairobi	0722455996	info@terrasolkenya.com
83.	Timaflor Limited	Rose Cut Flowers	P O Box 280 Timau 10406	0202109971	
84.	Tambuzi Ltd	Scented Roses Gyspophila Ammi Flower Herbs	P. O. Box 1148 Nanyuki -10400	0722-176158	tim.hobbs@tambuzi.co.ke
85.	Valentine Growers Co. Ltd	Roses	P.O. BOX 1846-00900, KIAMBU	0202020585	info@valentinegrowers.com
86.	Uhuru Flowers Limited	Roses	P O Box 47 Timau 10406	+254 713 889 574	roses@uhuruflowers.co.ke
87.		Utee Estate Limited	P. O. Box 1970 - 00606 Nairobi		Kp.rao@bth.co.ke
88.	Kongoni River Farm Ltd	Spray roses, Gerbera.	P. O. Box 1271 Naivasha	(0)20822831	Longonot@vegpro-group.com
89.	Kongoni River Farm Ltd	Roses & Rose propagated planting material.	P. O. Box 537 Nanyuki	(0) 20 822831	likioffice@vegpro-group.com
90.	Kongoni River Farm Ltd	Roses	P.O. Box 1271-20117 NAIVASHA	020 822 715	bharat@vegpro-group.com
91.	Kongoni River Farm Ltd.	Roses	P.O. Box 1401-20117 NAIVASHA	0719867750	sailesh@vegpro-group.com
92.	Kongoni River Farm Ltd.	Roses	P. O. Box 537 - 10400 Nanyuki	020 822715	bharat@vegpro-group.com
93.	Waridi Limited	Roses	P.O. Box 19294 Nairobi	020 2012201	Kadlag@waridifarm.com
94.	Wildfire Ltd	Hypericum, Roses, Molucella	P. O. box 279 NAIVASHA	(0)50 2 02 08 39	office@wildfire-flowers.com
95.	Windsor Flowers	Roses	P. O. Box 746 Thika	0739825948	farm@windsor-flowers.com
96.	Xpressions Flora Limited	Roses	P. O. Box 48232-00100Nairobi.	020-2312888	info@xflora.net
97.	Zena Roses Ltd	Roses	P.O. Box 2759 - 01000Murang'a	020 2051286	saleszena@gmail.com info@

Kenya Flower Council Associate Members

NO.	COMPANY	ADDRESS	TELEPHONE	E-MAIL ADDRESS
1.	Afapack Enterprises Ltd.	P. O. Box 14468-00800Nairobi	0722 525128	aleem@afapack.com
2.	Agribio Africa Limited	P.O Box 1739 Naivasha	0733-609 863	S.Outram@DNAGreenGroup.com
3.	Africert Limited	P.O. Box 74696-00200Nairobi	020 8081330	info@africertlimited.co.ke
4.	Agrichem Africa Co. Ltd	P.O. Box 27151-00100Nairobi	+254 722610779	registration1@agrichemafrica.com
5.	Agrotropic AG	Agro-Tropic AG Meienbreiten Strasse 3 CH – 8153 Ruemlang Switzerland	+41 44 818 78 78	bernhard.buergisser@agrotropic.ch andi.iten@agrotropic.ch
6.	Agro Africa Group Ltd	P.O. Box 40774-00100 Nairobi	(20) 222 11 9 47	info@agroafricagroup.com
7.	Air Connection Ltd	P.O. Box 39700-00623Nairobi	020 21 221 94/4/6	info@airconnectionltd.com
8.	Airflo Limited	P.O. Box 19121 - 00501Nairobi	20 6915 210	chris.mclean@panalpina.com
9.	Air France KLM Martinaire Cargo	P.O. Box 91900 -00501Nairobi	0704 872 655	Noud.Duyzings@klm.com
10	Aramex Kenya Ltd.	P.O. Box 10438 - 00100Nairobi	020 515 8000	Fred.mulatya@aramex.com
11	Bayer East Africa Ltd	P.O. Box 30321-00100Nairobi	020 8560667	augustine.gakena@bayer.com
12	Barclays Bank of Kenya Ltd	P.O. Box 30120-00100GPO, Nairobi	020-4254000E	dawood.wainaina@barclays.com
13	BASF	P.O. Box 24271 -00100Nairobi	0722507436	Francis.karanja@basf.com
14	Bidco Oil Refineries Ltd	P.O. Box 239- 01000Thika, Kenya	67 2821000	himanshu.dodhia@bidco-oil.com
15	Caly Flora Ltd	P.O. Box 11879-00100Nairobi	0722 722 086	calyflora@wananchi.com
16.	Carolina Exports Imports ENT. LTD	P.O. Box 72804-00200Nairobi	0713900233	sales@carolina-exim.com
17.	Chrysal Africa Ltd	78219-00507	0716 969 713	Flavio.pelizzoli@chrysal.co.k
18.	ColdMax EU	Lubeck 7/6 2993 LK Barendrecht Netherlands	+31644738519	hg@coldmax.eu
19.	Crop Nutrition Laboratory Services Ltd.	P.O. Box Nairobi	20 3561192	md@cropnuts.com
20.	De Ruiter East Africa Ltd	P.O. Box 687-20117Naivasha	50 2020160	info@deruiter.com
21.	Dipchem East Africa Limited	P.O. Box 49830-00100Nairobi	020 821180/1	fmwaniki@dipchemafrica.com
22.	Dow AgroScience	P.O. Box 2170 -00606Nairobi	020 4213000	anampiu@dow.com
23.	Durogoods Limited	P.O. Box 53983-00200Nairobi	20 2724111	mungai@durogoods.com
24.	Dutch Flower Group Kenya	P.O. Box 19121-00501Nairobi	020 660 8248	conrad@dfgkenya.com
25.	Elgon Kenya Limited	P.O. Box 46826 -00100 Nairobi	020 534410	bimal@elgonkenya.com
26.	Flora Bene Kenya Ltd	P.O. Box 169 - 00605Uthiru	0719664495	sales@florabene.com
27.	FloraHolland	P.O. Box 220 2670	+31 (0)6 53 23 52 02	MattheavanderMolen@floraholland.nl
28.	Floralife Europe GMBH	Tel: 020 251 62 65	0733 123 006	jkihia@floralife.com
29.	Flower Vendors Association	P.O. Box 20546-00200Nairobi	0721 552 026	gachuhielvis@yahoo.com
30.	GOS Limited	P.O. Box 39700-00623 Nairobi	0 722 207909	Peter.kaaka@globalgos.com
31.	Greenlife Crop Protection Africa Ltd	P.O. Box 24942-00100 Nairobi	020 2128459	info@greenlife.co.ke
32.	Hardi Kenya Limited	P.O. Box 47409-00100 Nairobi	020 8562098	admin@hardi.co.ke
33.	HPP Worldwide	Saxen WeimarLaan 54 HS - 1075 CE Amsterdam, Holland	+31 206622482	dick@hpp.nl

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34.	Hortilink (K) Limited	P.O. Box 4554-00100Nairobi	0727 756 417	info@hortilink.co.ke
35.	International Development Centre (IDC) East AFrica	CT Haven Court, Westlands	0719815191	faith.idcea@idc-sm.com
36.	Jumbo Chem Kenya Ltd	P.O. Box 50173-00100Nairobi	020 2102513	info@jumbochem.co.ke
37.	Kaileys Consortium Ltd	P.O. Box 22789 -00400Nairobi	0702 411809	info@kaileysconsortium.com
38.	Kemaks Blooms Ltd	P.O. Box 48Wanjohi, Nyandarua	0792705160	kemaksblooms@gmail.com
39.	Khensie Africa Ltd.	P.O. Box 10410 -00400Nairobi	0716 964397	mumbi.gichuki@khensie.com
40.	Koppert Biological System k. ltd	P.O. Box 41852-00100Nairobi	0736 256524,	cmacharia@koppert.co.ke
41.	Kuehe + Nagel Ltd	P. O. Box 69979Nairobi, 00400	0722205395	catherine.kibera@kuehne-nagel.com
42.	Landgard Blumen & Pflazen Gmbh	Veilingstraße M940 | 47638 Straelen-Herongen	+49 (0) 2839 59 1450	eric.kas@landgard.de
43.	Lake Naivasha Growers' Group	P.O. Box 1356-20117Naivasha	0722272721	lngg@africaonline.co.ke
44.	Lende' BV	Hoverholweg 2gc NL-5926 RC Venlo, Netherlands	0031651375573	erik@sierteeltnet.nl
45.	MagGrow East Africa	Nova UCD Belfield , Dublin 4 reland	0703 417756	John.McGrath@maggrow.global
46.	3M	Victoria Towers, Upper Hill NAIROBI	0 710 625240	mmucheke@mmm.com
47.	Millenium Management Consultants	P.o. Box 44569-00100NairobiKenya	0721 687 406	mmcafrica@mmcafrica.com
48.	Osho chemicals industries ltd	P.O. Box 49916-00100 GPO,Nairobi	020 3912000	oshochem@oshochem.com
49.	Otech SAS	ZI Sabliere 64270 Puyoo, France	0 728 717 305	julien.latour@otech.fr
50.	Phinna Flowers Ltd	P.O. Box 100192 – 00101Nairobi, Kenya	0723 582476	Phinnaflowers2014@gmal.com
51.	Pigeon Blooms Ltd.	P.O. Box 128 – 00521Nairobi, Kenya	0722 382859	eliud@pigeonblooms.com
52.	Profarm Africa Ltd	P.O. Box 1302 – 00515Nairobi, Kenya	0733 609600	dkkagwe@profarmafrica.co.ke
53.	Quest Laboratories ltd	P.O. Box 3097 – 00506Nairobi, Kenya	020 551988	fredrick.muthuri@agriq-quest.com
54.	Relab den Haan	Lookwatering 62 , 2635 EA Den Hoorn, Netherlands	+31 15 7502590	rene.timmer@denhaan.nl
55.	Rhino Limited	P.O. Box 101377 -00101Nairobia	0722 339 891	sales@rhinoltd.co.ke
56.	Sag Greens	P.O. Box 1004 -10101Karatina Kenya	0722 230239	saggreens@gmail.com
57.	Scarab Solutions Ltd	P.o Box 23202-00604 Lower Kabete	020 2345 285	info@scarab-solutions.com
58.	Schreurs East Africa Ltd	P.O. Box 1948-20117Naivasha	050 50 205	haiko@schreurskenya.com
59.	Small Holder Farming Formula	P.O. Box 312-00242Kitengela	0723 467620	pnduatim@gmail.com
60.	Sof-Tech Inc	P. O. Box 72468 – 00200Nairobi	0725 857 992	info@sof-tech.net
61.	Syngenta East Africa Ltd	P.O. Box 30393-0100,Nairobi	0203228000,	victor.juma@syngenta.com
62.	Tegmak Blooms Ltd.	North Kinangop, Nyandarua County	0711977665	tegmakblooms@gmail.com
63.	The Flower Source	P.O. BOX 16642 – 00620, NAIROBI	827065	millie.seagon@theflowerhub.co.
64.	Leekem Ltd	P.O. BOX 1633 – 20117, NAIROBI	0720 267004	leekem@gmail.com
65.	UFO Supplies BV	Rietwijkeroordweg 15 1432 JG The Netherlands Aalsmeer	+31 297 34 36 03	info@ufosupplies.nl
66.	Ultra Flo Ltd	P.O. BOX 3400 – 00506, NAIROBI	0734 697608,	info@ultraflo.biz
67.	Universal Work Health & Safety Consultancy Ltd.	P.O. Box 3353Nakuru	051 2213334	info@universalwhsafety.com
68.	Wermort Flowers	P.O. Box 76308 – 00508Nairobi	+254 723666574	info@wermortflowers.com
69.	Wilmar Agro Limited	P.O. Box 1682 - 01000Thika	0733 904301	info@wilmar.co.ke
70.	Vaselife International	P.O. Box 996 – 00502Nairobi	0727 007 068	antonio@vaselife.com
71.	Zedgee Limited	P.O. Box 16480 – 00100Nairobi	0722 679400	zedgee@swiftkenya.com

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Evisect® S

500 g/kg Thiocyclam hydrogen oxalate

Broad spectrum insecticide for difficult to control pests

- A novel insecticide with a rapid knockdown effect against: *Lyriomyza sp., Tuta absoluta,* Whitefly, Thrips, Aphid & Mealybug
- Dual mode of action; through contact & stomach action
- Resistance management tool - unique mode of action offering alternative to other insecticides
- Good systemic activity with fast acropetal translocation within plants
- A good IPM profile

Registration number: PCPB (CR) 0202. Hazard Classification: WHO Class III
NOTE: Always read the product label before usage .

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Orvego®

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 losses 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 keep them healthy longer to develop their full potential.
- Yieds high quality & residue free flowers.

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We create chemistry