September - October 2018

THE LEADING FLORICULTURAL JOURNAL IN THE REGION

FLORICULTURE

Kshs. 400 Tshs. 8,800 S.A Rands 45 USD 6

Flying Kenyan Brand To New Heights

ROTO GRAVURE®

PRINTING MACHINE

Introducing..

A New Innovation

Make Impressions that Last!

Why Our Roto Gravure

- 10 colour printing
- Latest Computerized Technology
- Precise Graphics Printing
- Fast Turnaround time

Printed Flower Sleeves

ELGON KENYA
Transforming Farms and Lives through Technology

East Gate Road, Off Mombasa Road
P.O BOX 46826 - 00100 Nairobi, Kenya
Tel: +254 733 699992 , +254 722 203089
info@elgonkenya.com

www.elgonkenya.com

Elgon Kenya limited
@elgonkenya

A Bright Ray of Hope for Protection of your Investment

Give caterpillars, thrips and leafminers a final send-off.

Dow AgroSciences
Radiant* 120SC
Insecticide
* Trademark of Dow AgroSciences LLC

Say goodbye to insect problems in vegetables. Radiant* SC insecticide uses an innovative Mode of action to put pests away. It delivers exceptional, long-lasting control against a broad spectrum of damaging insects- including caterpillars, thrips and leafminers. And it does so while maintaining populations of most beneficial insect. Plus, you get excellent pre-harvest interval with the shortest re-entry interval. So make sure there's no coming back for problem insects this season with Radiant SC insecticide from Dow AgroSciences.

DOW
Dow AgroSciences
Solutions for the Growing World

Amiran
Our Knowledge, Your Success.

Distributor
Amiran Kenya Limited: | Mobile+ 254 719 095 000 | www.amirankenya.com
/AmiranKenya /amiran_kenya

Contents

Cover Photo
Courtesy: Elgon Kenya Ltd

Inside

The Leading Floriculture Magazine

Contributions to Floriculture are welcome. Although every effort will be made to return manuscripts and photographs, these are submitted at owners' risk. Opinion expressed by contributors are not necessarily the views of Floriculture.

 Floriculture is published six times a year and circulated to personnel in the Horticulture Industry, foreign missions and Kenyan Embassies abroad, Flower Growers, Exporters and Consumers, extension officers in the Ministry of Agriculture and counties, research offices and suppliers of agricultural inputs in Kenya.

FUNGICIDE

Disarm® 480 SC

Fluoxastrobin 480g/ℓ

FUNGICIDE FOR CONTROL OF POWDERY MILDEW ON ROSES

With Xylem Pro Technology™

THE SYSTEM THAT PUTS YOU IN CONTROL

offering you:

- Rapid, excellent and residual disease control.
- Versatility to the users.
- Superior plant health benefits on greening, rooting and yield.
- Outstanding rainfastness and systemicity.

Amiran

Our Knowledge, Your Success.

Arysta LifeScience (K) Ltd.
Tulip House, 5th Floor, Mombasa Road
P.O. Box 30335-00100 GPO, Nairobi, KENYA
Tel: +254 717 432 174 | Email: arysta.kenya@arysta.com | www.arystalifescience.co.ke

Arysta LifeScience

Innovation. Agility. Results.

Editorial

Why Attend NH Fair?

Naivasha Horticultural Fair is a very powerful marketing medium. It brings together thousands of international buyers and sellers in one place in a short space of time. There are many ways and sources to look for products and suppliers, but nothing can beat the benefits that the NH Fair has to offer. It does not just gather together all the significant players from the industry but enable visitors to see large numbers of products at the same time, to evaluate and compare them, to attend demonstrations and to ask detailed questions. NH Fair provide visitors with a comprehensive overview of the entire market and industry. By taking advantage of the benefits the trade fair has to offer, you can increase your business at one go!

NH Fair visitors, like exhibitors, need to plan ahead to maximize their attendance and make the most of the opportunities the Fair has to offer. For your success it is essential that you ensure the right type of people and the kind of products and services you are interested in are there. Floriculture Magazine offers individual advice and provides detailed information about the products as well as exhibitors and visitors that come to the event.

Trade visitors need to meet the right people. B2B-meetings should be pre-arranged, targeted appointments dedicated to get buyers and exhibitors to meet. The B2B-meetings are an ideal way for small and medium-sized businesses, to build connections and to find new clients and potential cooperation partners. B2B-meetings help you to maximize the

impact of your participation and increase your chances of making high-quality business connections.

There are so many exhibiting companies that not only correspond to your interests, but also have interest in business with your company. The mutual interest of both parties provides the high efficiency of the time spent for the meetings for all participants.

Masila Kanyingi.

FLORINEWS

Publishers of Floriculture Magazine

P.O.BOX 79396 - 00200 Nairobi.
Tel: 020-2440909 • Cell 0732-558172,
Fax: 020-2244892
Email: info@floriculture.co.ke
Website: www.florinews.com

Floriculture Team

Galil

Puts Pests to Rest

AN INSECTICIDE FOR THE CONTROL OF THRIPS, APHIDS AND WHITEFLY NYMPHS ON ROSES AND ON TOMATOES

- Excellent knock-down effect
- Strong residual effect
- Rain fast

Bifenthrin
Pyrethroid

Imidacloprid
Neonicotinoid

Galil is a mixture of 2 active ingredients with 2 different modes of action which makes it an efficient broad-spectrum product to quickly protect your vegetables.

Distributed by:

Amiran

Amiran Kenya
Toll Free Nr: 0800720720
hila@amirankenya.com
www.amirankenya.com

For further information please contact: Robert Wachira
Tel: +254 713 463 937 www.adama.com/east-africa

ADAMA

Find us on Facebook ADAMA East Africa

Effects of Seasonal Variations and Geology on Quality of Ground Water.

By Benson Kibiru

We are alive at critical time where climate change is real. Generally, it has become a challenge for the farming fraternity to plan events because of the unpredictable weather patterns. As a result, for the agripreneurs, some has closed shops while others irrigation has been made inescapable. However, surface water is also unavailable in adequate amounts, making ground water an obvious choice.

Irrigation water for both greenhouse and field crops must be analysed and quality determined before use. The groundwater level is a key indicator for evaluating spatial and temporal changes in groundwater environments. The groundwater level is influenced by various factors. Climate change, as reflected in precipitation and evaporation rates, influences the groundwater level fluctuation and quality. Numerous studies have revealed groundwater salinity changed with the fluctuation of groundwater level whereby low salinity is recorded in wet season and increases to maximum levels during the dry season. It is for this reason, knowledge of hydrological processes and their effect on the ground water quality is essential.

To mention but a few and having the latter in mind, Sodium (Na), Chloride (Cl) and bicarbonates (HCO3-) levels in groundwater must be monitored against given standards depending on crop of interest. This will ensure only sound levels are in the root environment at any given time. Additionally, different studies have acknowledged spatial variations in concentrations of Nitrogen derivatives among other nutrients in groundwater because of geology and seasonal variations.

How does the above-mentioned affect crop production?

Like any other investor, the main objective of every farmer/ agripreneur is to generate returns within the a given period from the investment made. Specific to an agripreneur, worth remembering is a simple function “Profit making with sustainability= Nature impact + expert advisory + informed farm manager’s decisions” and have it in mind that, all the factors are equally important. Additionally, to achieve sustainability, efficiency, high precision and optimal yield, availability of essential nutrients must be in the right quantity and balance. This can only be attained through use of quality irrigation water and other agri-inputs (lime, fertilizers, gypsum e.t.c), where all nutrient credits are acknowledged. As it is well known to many “Quality is not a one-time activity but a continuous process” and for this reason, routine evaluation of Irrigation water as the carrier of essential nutrients most especially in a fertigation system must be synchronized with seasonal changes. This is meant to ensure nutrient solutions are adapted to the water quality otherwise accumulation of these ions can occur in the root environment, applied nutrients rendered unavailable and increased clogging of the emitters.

In summary, to have a smooth-running irrigation/fertigation system the subject practice “routine quality monitoring of irrigation water (Ground or Surface)” coupled with filtration at recommended mesh size, daily chlorination and acidification where applicable, bimonthly lateral flushing and regular lateral discharge monitoring are prerequisite practices.

Benson Kibiru is a Lead Scientist / Agronomist with SGS Kenya Ltd

SGS KENYA LIMITED

SGS is the world's leading inspection, verification, testing and certification company. SGS helps ensure integrity of the food value chain by providing services that cover all aspects of the agricultural industry, helping customers manage crops, enhance seed development, conduct soil testing and harvesting, move product through the global supply chain and manage trade inspections at export and import points. Serving all of the major players in the agricultural sector, our services reduce risk, ensure quality and improve productivity.




INSPECTION
VERIFICATION
TESTING
CERTIFICATION
TRAINING
CONSULTANCY
OUTSOURCING

LAB TESTING SERVICES

ISO/IEC 17025:2005

SGS Kenya has ISO 17025 accredited laboratories which demonstrate our effectiveness to properly execute testing methods, reporting practices, inspection routines, data validation and employee competence.

SANAS

Since 30th May 2002 www.sanas.co.za/

TESTS PERFORMED IN FOOD & AGRICULTURE

-Pesticides Residue Analysis (Over 450 compounds)
-Soil, Irrigation water, Plant tissue
-Microbiological tests
-Mycotoxins (Aflatoxins, Ochratoxins)
-Heavy Metals Contaminants
-Food Nutritional Analysis and Labelling Support
-Drug/Antibiotics Residues Analysis
-Vitamins Analysis
-Animal Feed & Dairy Products Analysis

INSPECTION & VERIFICATION

ISO/IEC 17020:2012

Agricultural and Food Services
-Cereals, Pulses, Tea, Coffee, Food Aid etc
-Containers and Truck Inspection
-Warehouse Inspection

KENAS, GAFTA, IFIA, FOSFA approved

www.kenyaaccreditation.org
www.gafta.com
www.ifia-federation.org
www.fosfa.com

SOIL AND PRECISION FARMING SERVICES

-GPS Soil Sampling and Mapping
-Soil and Leaf/Tissue Analysis
-Soil Fertility Correction and Management
-Fertilizer Testing and Field Fertilizer Trials
-Irrigation water testing
-Precision Farming Support
-Consulting

FIELD TRIALS

Fertilizer, Pesticides, Demonstrations

FUMIGATION AND PEST CONTROL SERVICES

-Fumigation of Agricultural Products: Grains, Pulses, Coffee etc
-Treatment of products against insects and mites
-Treatment of bulk and bagged products in stock piles, silos and warehouses
-Fumigation in transit
-Fumigation of commercial, storage, and industrial premises etc

Registered with PCPB

SGS ACADEMY
TRANSFORMING PEOPLE AND BUSINESSES

TRAINING ACADEMY

ISO 22000-	Food Safety Management System Training
GLOBAL GAP-	Global Gap Training
ISO 17025-	Laboratory Management System Training
ISO 9001-	Quality Management System Training
ISO 14001-	Environmental Management System Training
OHSAS 18001-	Occupational Health and Safety Training
SA 8001/ ETI-	Social Accountability Courses
	Legal Compliance Courses
	Management, Leadership and Soft Skills Courses

IRCA Approved - www.irca.org
NITA Registered - www.nita.go.ke

Please note it is always important to check the scope of your CABs accreditation!

SGS Kenya Head Office
Victoria Towers, 2nd Floor
Kilimanjaro Avenue,
Upperhill, Nairobi
P.O Box 72118, 00200
Tel. +254 (0)20 2733690/ 0722329521

SGS Kenya Multilab
SGS House
Ali Punjani Street,
Shimanzi
P.O Box 90264, 80100
Tel. +254 (0)41 2226677/ 0722202145

enquiries.kenya@sgs.com www.sgs.co.ke

WHEN YOU NEED TO BE SURE

Mr. Richard, the NH Fair Chairman

The four major African and Latin American flower producing countries of Ecuador, Colombia, Ethiopia and Kenya will be represented in this year's Naivasha Horticultural Fair from September 21st -22nd. Globally reknown suppliers will also pitch tent on the Naivasha Sports Ground. *Floriculture Magazine* spoke to different experts on exhibition and had this to advise:

Personalization is a necessity

Starting 21/9 and up until 22/9 NH Fair one of the biggest Horticultural Fairs in Africa will host hundreds of exhibitors and thousands of visitors during this this years trade fair. Growers, buyers, input suppliers, designers and florists will be able to explore a myriad portfolio of products. The event will take place at the Naivasha Sports Ground.

Marketing Effective, Economical, Off-Site

Naivasha Horticultural Fair, one of the industry's biggest event of the year always brings great revealations-including lots of tips and tricks for succesful business. This year, serious exhibitors must add a new layer of context to their portfolio, by examining all their products from the user point of view, or as they call it, persona.

In order to be able to answer unfulfilled needs in the market, and to bring true innovation, exhibitors must understand that they have to work outside the box. Whether it's on the retail level, bouquet company or even the end consumer, there are different tendencies and tastes, and they need to address each and every one of them in the best possible way. Succesful exhibitors need a new framework which is based on 3 main personas: the classic, the trendy and the naïve. Each represents a type of user, a unique style and preferences. By observing the persona, not just the agronomical characteristics, they will be able to screen their product pipe-line from a different perspective, and find more, new solutions for market special needs.

This framework can be facilitated on all levels, starting from breeders, through farms, input suppliers, sales and marketing, so that they all speak in the same language.

During the NH Fair trade fair, visitors will be invited to explore the wide assortment of products, under the new "persona" context, that will, help buyers appreciate the products on a deeper level. The display should be composed of best sellers, new products and future innovations.

"We are working in all areas to ensure best quality flowers. This is a combination of breeders, propagators, growers, input suppliers and professional services. We continuously challenge ourselves to improve, to educate growers and to support the whole eco-system to achieve high quality flower at the finish point", says Richard MacConnel, the Fair CEO.

Tradeshow dos and don'ts

One of the industry's biggest event of the year always brings great revelations – including lots of tips and tricks for successful trade show displays. *Floriculture Magazine* recommends a quick pre-show breakdown now, so you can begin developing your strategy while las year's effort is still fresh in your mind. Here are a few thoughts we picked up along the aisles.

Do a giveaway – and make it count double

As a succesful exhibitor, one should offer the chance to go home with a gift – and have growers enjoy every part of their stay in the suppliers booth. This can include some snacks and drinks as you discuss business.

Don't settle for mundane displays

Agricultural Machines and irrigation equipments aren't the sexiest, but they can still make a splash – as can be evidenced by some creative display idea.

Do commit to the theme

During last year's NH Fair – Some companies had an excellent resource for magnificent merchandising tips – captured our collective hearts when they re-enacted their catalog cover setup in a mock photo shoot front and center in their booth.

Don't stop at signs

Ceiling danglers are a great way to get your booth noticed from the other side of the trade show floor, but they're becoming increasingly prevalent. How about strategically placed towering palm trees to really get you noticed?

Don't let that stop you

Yes more people are doing ceiling danglers, but that doesn't mean you shouldn't. Instead, take it as a challenge for creativity. These 3D numbers catch the light and capture interest from a variety of industry segments.

Do make the move to high ground

Movement and motion are one of our key recommendations for any booth, so if you can incorporate a product demo, all the better. And if you're an irrigation company and you're marketing some of the industry's best irrigation systems, why not build a custom elevated moving product demo to up attention and the wow factor?

Don't be afraid to push the limits

If possible you can craft an award theme in your booth – and own it! The NH Fair organisers award various winners with accolades. It is important to adorn the booths with various accolades you've accumulated, and the staff (just visible in the background) strutted their stuff in dapper vest-pant combos.

Do make your booth really work for you

Yes you need a place to put your products, but consider how you adapt your booth for not just impact but functionality. Syngenta booth, for example, likes having a strategically integrated side office for private customer meetings.

Don't pack it in early

So your flight's schedule requires you to leave straight from the trade show floor? Don't use your booth as a luggage rack. If you must bring your bags to your booth, hide them, or at a minimum, place them strategically out of traffic flow.

Do take it to the next level

An employee goes all in with floral shoes and a floral belt! Maybe you're not so dedicated, but you can still let your booth uniform do the talking, beyond just a simple logo.

Sivanto Prime: The Latest Insecticide From Bayer CropScience

By Anthony Songoro

What is Sivanto Prime?
Sivanto Prime is the latest insecticide from Bayer Crop Science for the control of important sucking insects that fits perfectly in sustainable growing systems. Sivanto Prime protects your crop against a wide range of insects, such as whiteflies, aphids, and thrips and is effective against both nymphs / larvae and adult stages. Sivanto Prime has a fast activity and is absorbed by the leaf, after which the active substance moves in the direction of the juice flow. Also key, the mode of action of the active substance flupyradifurone, makes Sivanto Prime an asset in resistance management strategies

What is the mechanism of action of Sivanto Prime?
Sivanto Prime works in the central nervous system of the insect as an agonist of the nicotinic acetylcholine receptor (nAChR) of the insect. The active substance flupyradifurone mimics the natural neurotransmitter. The long-lasting effect of the product results in a disorder of the nervous system of the insect,and subsequent death.

What makes Sivanto Prime unique?
Sivanto Prime has a very fast effective control against sucking insects and a favorable profile. Sivanto Prime gives effective vector control through fast activity and feeding ceasation in insects.

How is Sivanto Prime classified in the IRAC mode of action group?
The Insecticide Resistance Action Committee (IRAC) has classified Sivanto Prime, (flupyradifurone), in the new subgroup 4D - Butenolides, a new subgroup of Group 4, which includes all insecticidal agonists of the nicotinic acetylcholine receptor (nAChR).

What innovation characterizes Sivanto Prime's formulation concept?
SIVANTO® Prime has a unique formulation concept based on a specially tailored emulsifier system that has never been used by Bayer before. The formulation is easy to use and store thanks to improved cold stability and offers fast solubility and good mixability in the spray tank. The advanced retention properties result in good coverage and improved leaf penetration to ensure rapid action of the active substance.

What are the core benefits and properties of Sivanto Prime?
The new butenolide chemistry makes Sivanto Prime a systemic insecticide that can be used to control a wide range of sucking insects, such as aphids, whiteflies, thrips and other important pests. Sivanto Prime fits perfectly in an integrated cultivation and is safe for honeybees and bumblebees (when used according to label). Sivanto Prime is also safe for most beneficial insects.

Does Sivanto Prime fit within an integrated system?
Sivanto Prime is the ideal product within an integrated cultivation system due to the minimal risks to beneficial insects, such as ladybugs, parasitic wasps and predatory mites.

How fast is the initial effect of Sivanto Prime?
A leaf application with Sivanto Prime ensures a rapid reduction of the sucking of the insects, after which the secretion of honeydew strongly decreases. After a few hours the first dead insects are visible and the maximum killing is reached within two hours.

What is meant by the systemic and translaminar effect of Sivanto Prime?
Sivanto prime is taken up into leaves and stems after spray application and via roots if applied to soil or alternative substrate After uptake into plant system, Sivanto prime is translocated acropetally in the xylem, in direction of transpiration stream and moves translaminar to the underside of the leaf. Due to the systemic properties, the active substance is redistributed quickly and evenly over the entire leaf, so that hidden insects are controlled.

Is Sivanto Prime effective against various stages of the plague?
Sivanto Prime addresses both the larvae / nymph stages and adult stages.

What is recommended for active resistance management with Sivanto Prime?
Sivanto Prime is an insecticide from the completely new chemical subgroup 4D: butenolides. Sivanto Prime differs in structure from all other insecticides (such as neonicotinoids = CNI, pyrethroids, and organophosphates).

In order to prevent resistance, it is necessary to alternate between the different chemical groups. An alternation between the various subgroups reduces the risk of cross-resistance.

The writer is the head of customer marketing, Bayer CropScience

BAYER

SIVANTO® prime

Growing in Unison

Integrated Crop Protection with SIVANTO® prime

- broad & reliable insect control
- fast activity leading to quick feeding cessation
- flexible application timing
- favorable safety profile

Growing crops with environmental responsibility and economic success.

www.sivanto.bayer.com

Flying Brand Kenya Flower to New Heights

By Nelson Maina

Kenya flowers will now be exported to the USA directly following the introduction of express flights to New York set to debut later this year.

While newspaper headlines and numerous talk shops have belaboured this historic development, the ripple effects it will create moving forward for this all-important sector cannot be gainsaid. It has been a long journey for the floriculture fraternity that continues to add more export destinations to its portfolio.

Kenya has increasingly continued to capture global markets for its unique and high quality roses that have graced key international events and received a thumbs up from global icons. It is worth celebrating the journey that now has seen one of the strictest countries in terms of market access open doors to our flowers.

The movement of tender flower petals from somewhere in Naivasha to a dazzling bouquet in an auction in Netherlands or a retail store elsewhere in Europe is perhaps one of the most delicate, meticulous and labour intensive to have ever been traveled.

Thousands of flower producers and workers countrywide can attest to the fact that ornamentals production is no mean feat. It is a labour of love that requires unenviable sacrifice, personal commitment and total dedication. The delicate nature of the flower compared to other crops requires men and women behind its cultivation to go the extra mile in ensuring nothing is left to chance.

Then there are the voracious pests and diseases, existing and emerging that can condemn entire harvests to doom. Still flower producers have always put on a strong face, churning dozens after dozens of bouquets that have turned the sector into the third-biggest source of foreign currency with a 30 per cent share of the global cut flower market. It has been a rosy story that has seen the sector weather numerous storms to record an impressive climb in production and earnings year after year.

Strict flower production guidelines, support from both government and key bodies like the Kenya Flower Council and international exposure have all worked in favour of the country even as we seek new markets to diversify our portfolio while hedging against potential risks.

The Kenyan flower is a darling to many in the international arena due to the natural growing conditions while strict adherence to international set standards compliance levels have increased impressively over the years, and we are seeing less numbers of rejected cargo from Kenya.

Even storms like the lengthy discussions over an Economic Partnership Agreement that threatened our exports didn't dampen our luster in the global stage. We have still kept our head high.

With new markets opening up fast, demand will need to be matched with consistent and high production. And this means flower growers both small and large scale would require necessary assistance from government and private sector, coupled with requisite infrastructure to up production and produce brand Kenya flower.

We at Elgon Kenya have invested heavily in the sector commanding a bulk of products and services supply to flower farms in the country. This, inspired by the need to provide cutting edge solutions to an industry that offers livelihoods to over 500,000 Kenyans.

It explains why it has introduced a Flower Farm Category in this year's National Farmers Awards to not only celebrate the milestones the sector has achieved for the economy and ordinary Kenyans, but to also inspire new entrants to take up a market that promises great fortunes for investors.

As the company advances in its Elgon Tosha mantra of being a one stop shop, it is promising its flower industry customers even more superior products and services as we play our part in supporting the sector to soar higher.

YOU'RE COVERED AGAINST BOTRYTIS

SWITCH® remains the trusted fungicide against botrytis in Ornamental production all year round.

- Protection of the plant through contact and systemic activity
- Built-in resistance management with two different modes of action
- Long lasting protection against Botrytis
- Excellent Integrated Pest Management (IPM) fit

Switch®

syngenta®

The Latia Resource Centre State of the Art Facility

Koppert Invests in **Latia Training Centre!**

Koppert Biological Systemstakes pride in being a "knowledge company". The company's strength stems from the ability to turn knowledge into practical applications that offer solutions to prevailing challenges in agriculture. Sharing this knowledge through as many avenues,and to as wide an audience as possible, is therefore a key goal. It is for this reason that the companyrecently invested in Latia Agribusiness Solutions (LAS).

Latia Agribusiness Solutions is a company that supports farmers through training, mentorship and skilled labor provision. Located in Isinya, Kenya, the firm offers these services through unique models that include apprenticeship programs, on-site and off-site incubation ofagripreneurs, as well as short training programs targeting small-holder farmers. Latia Agribusiness Solutions aims at transforming low profit yielding agribusiness ventures into lucrative enterprises that are financially sustainable.

LAS is an off-shoot of Latia Resource Centre (LRC), a social enterprise established in 2008 to provide training and business support services to farmers, pastoralists and agribusinesses in Africa. LAS college (Latia Agripreneurship Institute) has been accredited by all relevant statutory institutions including the Technical & Vocational Education & Training Authority TVETA, and the National Industrial Training AuthorityNITA .

Besides Koppert, the other new investors in Latia are Agritech Solutions and Delphy. By bringing together new partners and shareholders, Latia's new and strengthened structure creates a unique platform and ecosystem of solution providers. Trainees and growers alike are now able to acquire an array of knowledge, technologies and support to enable them achieve their objectives.

Koppert brings to Latia over fifty years of knowledge and experience in sustainable agriculture. This knowhow will now be practically demonstrated and disseminated to enable farmers improve food production, quality and sustainability. It is one extra step in the company's noble endeavor to partner with nature to make agriculture healthier, safer and more productive.

Smallholder farmers play a critical role in ensuring food security but are often less equipped with new technologies and knowledge to improve productivity and enhance sustainability. SMEs on the other hand often lack skilled labour to enable them to accomplish their objectives.
The new Latia seeks to bridge these gaps. 'As Koppert Kenya, we are excited by the opportunity to be part of this venture. By spreading the message and culture of sustainable agriculture, we look forward to transforming the industry in Kenya, East Africa, and indeed, the entire African continent,' says the General Manager of Koppert Kenya, Charles Macharia.

NoPath

Supporting plants the natural way

A natural solution based on plant essential oils, for the preventive and curative control of diseases such as Downy mildew and Botrytis in crops.

KOPPERT
BIOLOGICAL SYSTEMS

www.koppert.co.ke
info@koppert.co.ke
+254 731 202 191

PARTNERS WITH NATURE

Make the Greener Choice

Next time you're brightening up a room, a mood or a day with beautiful roses imported from Kenya, you can rest assured that the carbon footprint is as low as possible – and that you're supporting jobs and development where it is needed.

Kenyan Roses are the Greener Option

Transportation of the Kenyan flowers is far more carbon intensive and levels out the difference, but it's still clear that Kenyan rose production is greenest: the entire process was calculated to be six times more carbon efficient than the Netherlands, when transport to Europe was included

Green Farming doesn't happen overnight and it doesn't happen by accident. In fact, it takes planning, creativity and consistency - executed over time - again and again. This starts with production, packaging, transport to airport, airfreight from airpot to airport,Transport to distribution centre from airport/production site etc without overlooking even the smallest detail.

Increasing energy efficiency and renewable energy use in the Netherlands is forecast to close this gap in the future, but there is still a long way to go. Exact figures from the study can be found in the table below, which show the CO_{2eq} emissions from comparable flower farms.

Supply chain section	Kenya (kg CO_{2eq})	Netherlands (kg CO_{2eq})
Production	300	36,900
Packaging	110	160
Transport to airport	18	0
Airfreight from airport to airport	5,600	0
Transport to distribution centre from airport/production site	5.9	50
Total	**6,034**	**37,110**

Note: Emissions are based on a functional unit of 12,000 marketable cut stems and are shown as Global Warming Potential (GWP) expressed in kg of CO2 equivalents using the IPCC (2001) conversion factors. GWP and CO2 emissions from Kenya include the IPCC altitude factor. Source: The Dutch Ministry of Economic Affairs, Agriculture & Innovation (2012), who adapted the table from Edwards-Jones et al. (2008) with reference to Williams (2007).

Kenya is the biggest exporter of roses to Europe, transporting almost 160,000 tonnes of cut flowers in 2017. The country's climate is perfect for growing flowers, its proximity to the equator providing daily sunshine and mild temperatures year-round. But an increasing awareness of the virtues of buying locally is sparking a debate around importing such goods: isn't it better to grow them at home? Intuitively, this might make sense, but a dive into the figures shows what's really more sustainable when it comes to flower farming.

Kenyan roses are by far the greener option

Food, flowers and other agricultural products that are grown near to the equator tend to have a lower carbon footprint than those produced locally under artificial conditions, studies have shown. Roses grow naturally in Kenya, but in the Netherlands, they must be grown in greenhouses under artificial heat and light. This makes the production process in the East African country 123 times more carbon efficient than in the Netherlands,

To Page 18

From Page 17

according to one study. Transportation of the Kenyan flowers is far more carbon intensive and levels out the difference, but it's still clear that Kenyan rose production is greenest: the entire process was calculated to be six times more carbon efficient than the Netherlands, when transport to Europe was included.

Air miles or fair miles?

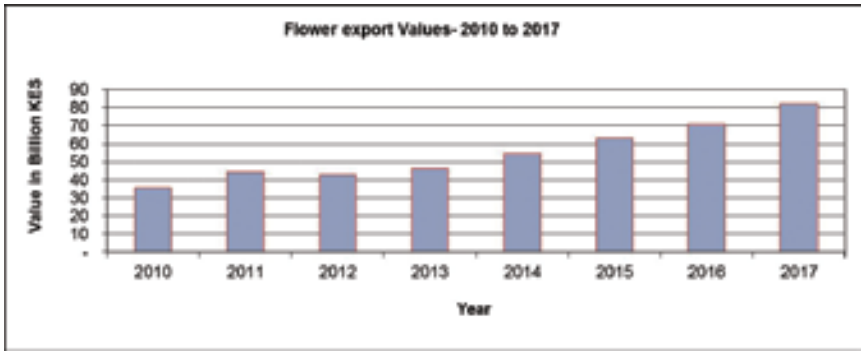
When it comes to conscious consumerism, it helps to look beyond CO2 emissions to consider the wider impact of buying choices; demonstrated by the concept of 'fair miles'. By buying products which greatly contribute to a country's economy, consumers support development and poverty alleviation. Kenya's horticulture sector accounts for a third of the country's agricultural GDP and is one of the leading generators of the country's foreign exchange. Over half a million people are employed by the floriculture sector, 100,000 of which are directly employed by the flower farms. This is estimated to impact the livelihoods of over 2 million Kenyans.

The growth of this sector contributes significantly to the economy, holding the potential to boost GDP and increase living standards in the long term. Many of Kenya's flower farms are regulated by the Kenya Flower Council (KFC), which ensures fair wages and working conditions as well as responsible use of natural resources and pesticides.

Kenyan flower farms are moving to solar

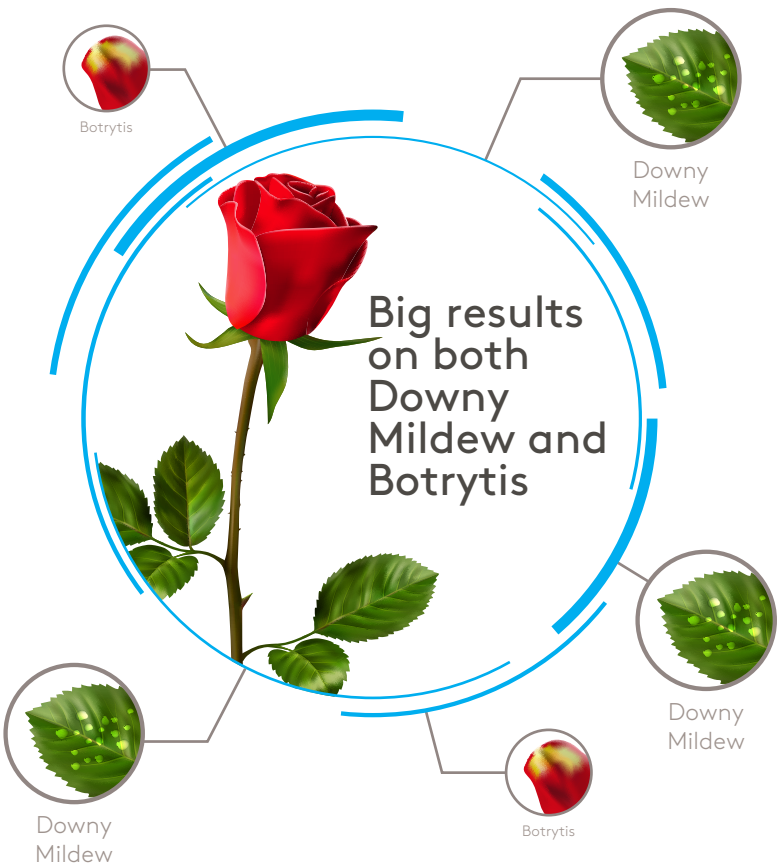
While solar-powered flights are still just a glimmer on the horizon, flower farms in Kenya have started to move to solar energy, reducing production emissions even further. It makes sense for these farms to utilise the abundant sunshine that grows their roses to power their operations as well, and not only for environmental reasons. High energy prices are a well-known concern for flower farms, with energy bills often accounting for a large portion of a farm's operational expenses. The Kenyan Energy Regulatory Commission just announced another electricity tariff increase that will affect flower farms with a >20% price increase. This hinders potential growth: the sector's forecast growth rate of 5% p.a. over the next 5 years could be significantly higher, creating further benefits for the economy. This growth is also sustainable from the outset, powered by renewable energy. The movement is in its early stages, but interest is growing rapidly, as access to solar is facilitated by full-service solar companies such as ecoligo.

So, next time you're brightening up a room, a mood or a day with beautiful roses imported from Kenya, you can rest assured that the carbon footprint is as low as possible – and that you're supporting jobs and development where it is needed. And if you'd like to have even more of an impact, you can invest in a solar project for one of the very farms your roses are grown at.



Bigo

A new fungicide from ADAMA which is a combination of two molecules with 2 modes of action



- Higher efficacy
- Fewer sprays
- Flexibility in timing of application
- A powerful tool to counter resistance development

Distributed by:

Amiran

Amiran Kenya
Tel: +254 737 590 146
Mwadzombo@amirankenya.com
www.amirankenya.com

For further information please contact: Robert Wachira
Tel: +254 713 463 937 www.adama.com/east-africa

ADAMA

Find us on Facebook ADAMA East Africa

Reasons to Visit Naivasha Horticultural Fair

- Gain an overview of the market and industry – trade fairs bring together the whole industry worldwide
- Find new markets and opportunities
- Follow latest trends and innovations – keep yourself up to date
- Get new ideas for your business
- See novelties – trade fairs are places where large numbers of new products and services are launched
- Evaluate products and suppliers – you get competitive information about a wide range of products and suppliers in a short space of time
- Compare and discuss specific issues, features, prices and conditions
- Place orders and negotiate contracts
- Look for specific products and services
- Find information to solve specific problems
- Evaluate your competitors – a visit to a trade fair in your own industry is an efficient way of gathering competitor intelligence
- Learn – trade fairs are great places to extend and deepen your knowledge
- Gather suggestions regarding your own business e.g. product and design
- Keep in touch with your existing business partners
- Generate new business contacts
- Evaluate the benefits of possible participation as exhibitor
- Visit conferences, networking events, workshops, seminars and panel discussions
- Network – trade fairs provide a unique venue for people with common interests to connect personally with one another
- Meet colleagues from your own industry (politics, business)
- Collect unforgettable memories and experiences

AIR

soliQ

- **High Performance**
- **Quality Assured**
- **Savings on Freight**
- **Reduce Loss of Produce**

Exceeding Packaging Expectations

Boxes, SFK, Partitions and FlowerSleeves

Silpack Industries Limited
No 2 Likoni Road, Industrial Area P.O. Box 22001 - 00400 Nairobi, Kenya
www.silpack.com

Tel: (+254 20) 8085902/3, 650928, 650943, 552063/7, 553779, 557523, 557656
Company Cell: (+254) 728 603 518, (+254) 736 519 845
Email: info@silpack.com

Why the Freight Industry Uses Volumetric Weight

Currently more than 300 types of boxes are used; there's a great variety in box sizes and quality, and that brings along a lot of challenges.

Standard freight pricing is based on weight rather than volume. However very light loads take up much more space than their share of weight load, and would otherwise be unprofitable to ship.

A shipment's dimensional weight is calculated by dividing its volume (units × length × width × height) by a "dim factor". The lower the dim factor the greater the dimensional weight.

The greater of actual weight and dimensional weight becomes the shipment's chargeable weight (aka billable weight). Light loads are charged by dimensional weight, heavier loads are charged by actual weight. The threshold depends on volume and the dim factor used.

There are some standards for calculating dimensional weight, but they are not universal for all modes of transport, carriers, countries, or customers.

What is Chargeable Weight?

The carrying capacity of every aircraft, truck, and ship is ultimately limited by space or weight. If you load a vessel with heavy cargo, you may hit its weight limit before filling all available space. If you load a vessel with light cargo, you may fill all available space before hitting the weight limit.

When calculating the cost of moving your shipment, the carrier will consider both the weight and volume of your cargo, by converting the volume into a "weight equivalent," also known as volumetric weight (or sometimes dimensional weight). The carrier will then charge per kilogram for whichever is greater: the actual weight (also known as gross weight) or the volumetric weight.

In other words, shipping 1 kilogram of feathers costs more than shipping 1 kilogram of steel, assuming that the cartons of feathers take up more space than the cartons of steel.

This explains why in some cases, especially when shipping by air, you'll see both actual weight and chargeable weight in your shipment record.

Actual weight is the number you provide when submiting your initial quote request. Your quote is based on this number. Actual weight = gross weight.

Chargeable weight is the number on your invoice; it's the amount the carrier charge to move your shipment. The chargeable weight is whichever of the following is greater:

- The gross weight (including the product, packaging, pallet, etc.), or
- The volumetric weight

Terminology:

How is volumetric weight calculated?

Volumetric weight calculations vary by mode of transportation and sometimes by trade lane.

How can I better estimate my shipment's chargeable weight?

The best way is to make sure that the information you're providing in your initial quote request is accurate as possible. In many cases, When the cargo is picked up, it turns out to be larger than expected. A common reason for this is palletization. Does your supplier palletize your products? This will affect weight and volume. The more you know about how your product is packaged and palletized, the more accurate the quote will be.

If you have a shipment that is light for its size, you may be charged at a higher rate than the actual weight – the dimensional weight. This easy to use dimensional weight and chargeable weight calculator works off any dim factor or volumetric ratio and is suitable for all modes, countries and freight carriers.

It is important to ensure that the shipment has been carefully weighed. A small error may be the difference between the shipment being charged by dimensional weight rather than actual weight.

There are several ways one can save costs by reducing the shipment's volume weight ratio:

- Don't over-package lightweight freight beyond the minimum required to protect your shipment.
- Use the smallest carton size possible.
- Minimize wasted space by compressing products that can be compressed.
- Pack lightweight cartons together if possible.

Minimise pallet size and avoid them altogether on small shipments, especially for air freight. Their dimensions will balloon dimensions and therefore chargeable weight.

CONTROL AGAINST

Aphids and Thrips on Roses

CLIFF 10.8EC®

EMULSIFIABLE CONCENTRATE

Pyriproxyfen 108g/L

Biochemistry that acts as an insect juvenile hormone analogue that inhibits insect maturation processes

Insect Growth Regulator Suppressor of embryogenesis, inhibitor of metamorphosis and inhibitor of reproduction

AGRICHEM AFRICA LTD®

Your Partner in Agriculture

For more information please visit our offices or contact our sales team at:

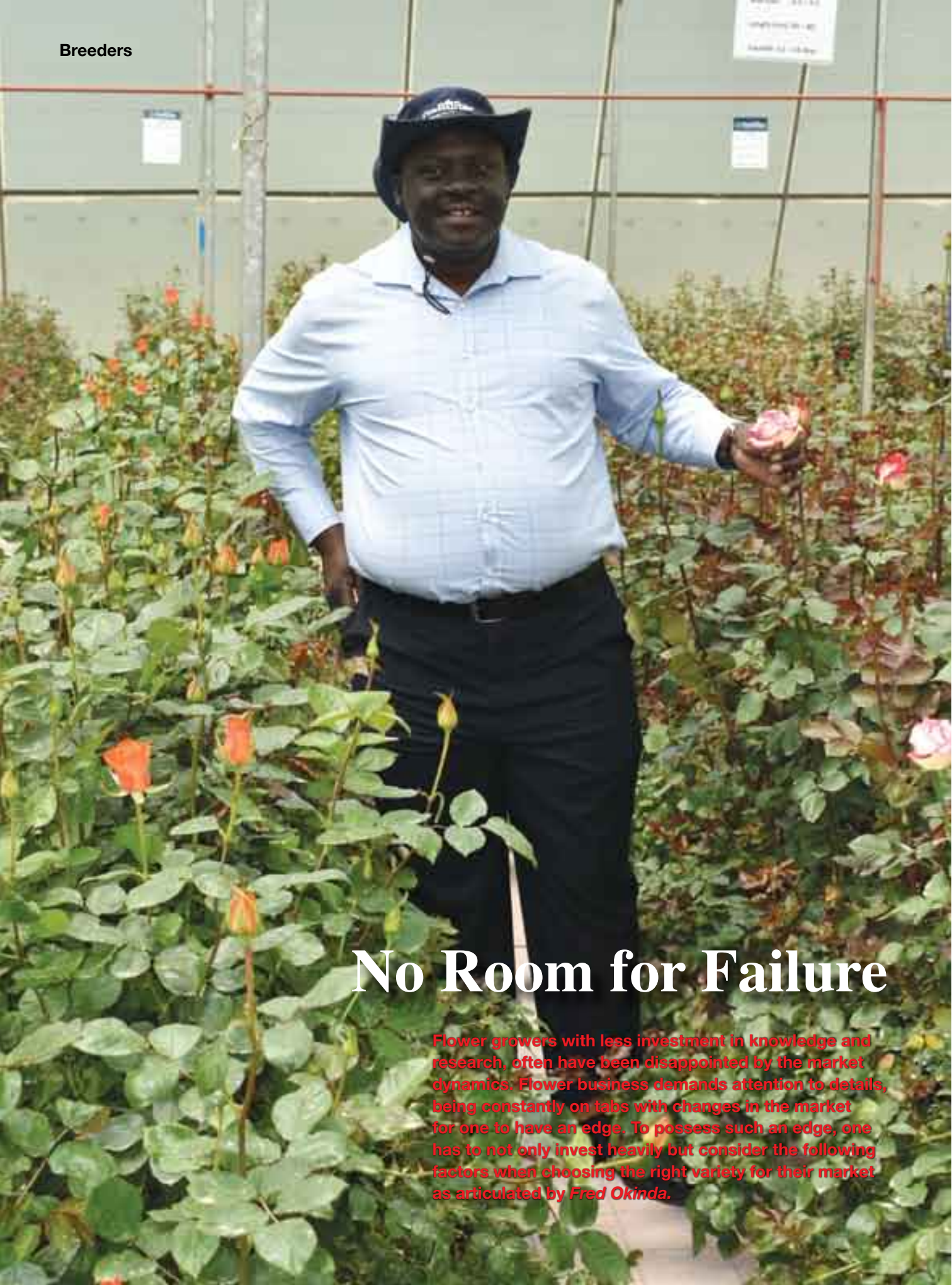
AGRICHEM AFRICA LIMITED®

Unit #05 Winsford Park off Baba Dogo Road, Ruaraka

P.O. Box 27151 G.P.O. 00100 Nairobi, Kenya.

Pilot Lines: 0733 806 200; 0727 531 010; 0720 325 144

Email: marketing@agrichemafrica.com • Website: www.agrichemafrica.com



No Room for Failure

Flower growers with less investment in knowledge and research, often have been disappointed by the market dynamics. Flower business demands attention to details, being constantly on tabs with changes in the market for one to have an edge. To possess such an edge, one has to not only invest heavily but consider the following factors when choosing the right variety for their market as articulated by *Fred Okinda*.

What to Consider When Choosing the Right Variety: A Tete A Tete With Fred Okinda of Deruiters

What should growers consider before choosing a variety?

When you have paid attention to the market, location, disease susceptibility and vase life have been considered. The following additional actions should be taken by the grower: soil testing, water test, rainfall amount measurement, temperature measurements and consideration of variety trials and data available on a given variety of interest plays a very important role.

Market

Flower business just like any other business starts from the customers' end; this involves a detailed research by the grower to understand and decide if he/she will grow for premium or retail markets. Premium markets focus on the auctions and high-end florists and their requirements differ from those in retail. For instance, premium markets need a 5cm head size flower and above while retail markets demand 4 cm and above.

Demand is another factor to consider when it comes to the market, which variety is in high demand? Are customers looking for a big headed pink or a big headed white? Once you get such information you will make the right decision on the variety to grow since you are in this to earn a livelihood. You cannot take the auction as the dumping site; that's the mistake which will wreck you out of business sooner than you anticipated. Wherever markets you are growing for, they all do have their needs, work with the customers' needs before selecting a variety.

Location

When it comes to flowers, location matters a lot; are you growing at a lower altitude or higher altitude environment. Every variety performs differently at both altitudes. Once you understand the needs of your customers, this will guide you in choosing the right variety which will provide appropriate head size and length in the altitude you are growing in. High altitudes normally produce the big head size of 5cm and above and taller length of up to 60 cm while lower altitudes generate flowers of 4cm and a length of 40-50 cm.

Breeding process caters for all types of altitudes; growers should rely heavily on

To Page 26

From Page 25

the available database in choosing varieties that will deliver in their location. In addition to the altitudes, the following should be a consideration too in a location. Access is a vital issue to consider in a location, do you have good and reliable roads to transport flowers in time? Power should be consistently available and reliable.

Topography is also necessary for a location, how is the terrain? Are there high chances of soil erosion? Water quality and amount are also very vital, how is your water? Do you have to purify? Flowers are living organisms and they demand clean water for their survival, before choosing a variety a grower should consider all the factors above and check them before settling to grow any variety in a location of their choice.

Disease Susceptibility

Botrytis and Downey mildew are the major disease that affect flowers, reduces production and its quality. Breeders have advanced in their research and for this most of the varieties present, today are resistant to Downey mildew and botrytis. Before choosing a variety, a grower should consider available information regarding disease susceptibility of a variety. Quality is very essential when it comes to flower growing, flowers should be free of pests and diseases and to do this, starting with the right variety determines the quality and quantity of your production. Before choosing a variety, test it well, consider the trials and get to know if it will survive Downey or botrytis.

Vaselife

This is the most important factor when it comes to choosing the right variety. How long is the tested vaselife of a variety? The standard vase life of a flower should be 5 to 7 days because the consumer needs to use the flower for 7 days or even more. During vaselife consideration, growers should assess the following: does the variety open fully or kill over, this is necessary to enhance the quality and satisfaction of customers' needs. Every breeding process usually strives to attain 14 days minimum for vaselife in any variety. How does a variety behave during shipping? Does it survive the process well to the end consumer point? Without a vase life edge in a variety, investment in it will be doomed to cause huge losses.

Flowers are living things as we all know and its prone to ageing, one of the ageing hormones in flowers is ethylene which causes scent. Flowers which produce less ethylene and exhibit less scent tend to last longer than the latter and guarantees reliable vase life.

Growing Capacity

Growers should assess their capability to grow given varieties, in as much this factor lies towards the breeder before choosing to allow a grower to grow their variety; the grower should ensure that he/she has the right capacity to grow the flowers following all the required standards. Flower business is capital intensive and without competent investment; quality and quantity will be compromised and these put any investor out of the game in flower business within a very short period.

You need to consider your expertise; do you have competent professional staff that will help you in your quest? Normally before we issue a variety to a grower we have to confirm that indeed you possess the right capacity before growing a variety to enhance and build the name of such a variety.

Additional Information

When you have paid attention to the market, location, disease susceptibility and vase life have been considered. The following additional actions should be taken by the grower: soil testing, water test, rainfall amount measurement, temperature measurements and consideration of variety trials and data available on a given variety of interest plays a very important role. Shortcuts are wrong and a killer in flower business, I will insist that you give a substantial attention to details at all times for your flower business to stand the test of the times.

Final remarks

There nothing that will beat a grower who commits to seeking information through extensive research and more especially market research, strive to be professional and consistently be versatile to adapt to the market changes.

At deruiters, we have consistently proofed that we have the right capacity to deliver on the best varieties and we commit to partnering more with growers extensively in innovating and striving to be a one-stop shop for retail and premium varieties.

We are pleased to welcome you to our stand in Naivasha Hortifair for an open house to view our existing varieties, new ones and also establish a resourceful relationship with us. See you then.

> ***"Flower business is capital intensive and without competent investment; quality and quantity will be compromised and these put any investor out of the game in flower business within a very short period."***
> Fred Okinda.

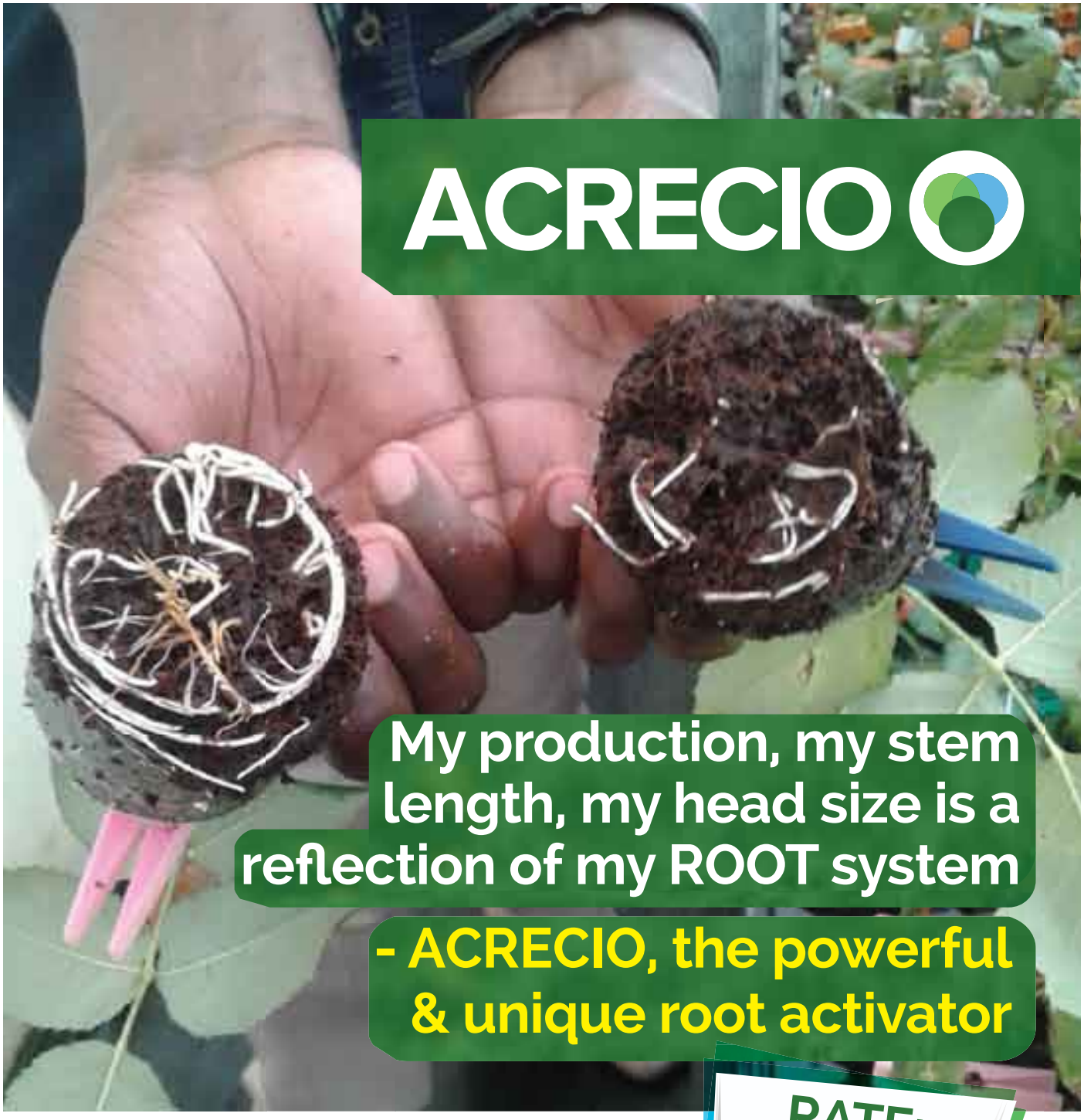
Keep your Hydrangeas in optimal condition during transport and storage

Chrysal FreshLiner

Transport and storage bags for Hydrangea, (red) Roses and other flowers. It assures firm flowers and leaves, due to the right atmosphere during transport and storage. For Hydrangea, single water carriers are no longer necessary, thus reducing the risk of botrytis (and transport costs).

CHRYSAL

For more information about availability and prices, please contact us locally at info@chrysal.co.ke



RATE: 10L/Ha in a crop cycle

Acrecio is a unique association of endogenous activators.
The unique root activator is made up of 4 active ingredients:

- Pure L-Tryptophan
- Pure L-Methionine
- Acreciactiv : natural stimulator for roots created by the Agronutrition's research
- Humic & Fulvic acids

✱ **Acrecio is the ideal product for rose growers planning for high season (valentine).**

Amiran

Distributed by:
Amiran Kenya Ltd.
Old Airport North Rd., P.O.Box 30327 - 00100,
Nairobi Kenya
Tel: 0800 720 720
Email: pr@amirankenya.com / www.amirankenya.com

Call us on our toll free number
0800 720720

NutriCare technologies
Agronutrition

Working Conditions and Employee Rights

Every employee is entitled to 24 working days as annual leave. They also receive a travelling allowance. Those who have worked with the company for more than 5 years are entitled to annual leave of 26 working days.

What is the gender balance in the flower sector?

The flower farms employ thousands of rural Kenyans, of which approximately 40% are female and 60% are male. Women hold almost 50% of the supervisory positions.

What are the working conditions like?

Wages and working hours

Most flower farms employees work 7.67 hours per day, 6 days a week. The security staffs may have a different shift. Overtime is paid for any extra time worked. Most farm employees earn an average base wage of slightly above Kshs. 10,000.00 per month, which is above the agriculture industry average of about Kshs. 9,079. The government minimum wage is Kshs 6,615.

Most farm employees also benefit from a well-designed PRP policy. This is a cash benefit in which employees are rewarded with a percentage of their basic pay as a bonus.

Food and water

Subsidized meals, tea and snacks are available for employees during work.

What labour rights and support do employees have?

Employee rights

The farm's employees receive the following statutory benefits:

• Most farms pay extra percentage on top of each employee's monthly wage as housing allowance, where the farms do not have housing quarters on site.

• Most employees receive a monthly transport allowance. Employees who arrive early in the morning and those who work late in the evening are provided with transport either to or from the flower farm's premises.

• Every employee is entitled to 24 working days as annual leave. They also receive a travelling allowance. Those who have worked with the company for more than 5 years are entitled to annual leave of 26 working days.

• Most of the farms provide female employees with a 90 days of paid maternity leave without forfeiting their annual leave.

• Some farms also provide male employees with a 14 paid days as paternity leave.

These terms are largely regulated by the Kenya Flower Council (KFC).

Healthcare support

Most farms have well-equipped farm clinics. Services at the clinic are provided at no cost.

BASF
We create chemistry

Secure® 240SC

The unique way to stop sucking pests

- Effective control of red spider mites
- No known cross resistance to other insecticides
- Long lasting residual control
- Controls mites not directly exposed
- Breaks insect life cycle

Joseph Muita,
Ornamentals Manager-Kenya
E-mail: joseph.muita@basf.com
www.agriculture.basf.com/ke/en.html
Mobile: +254 721 295 259

Meltatox®

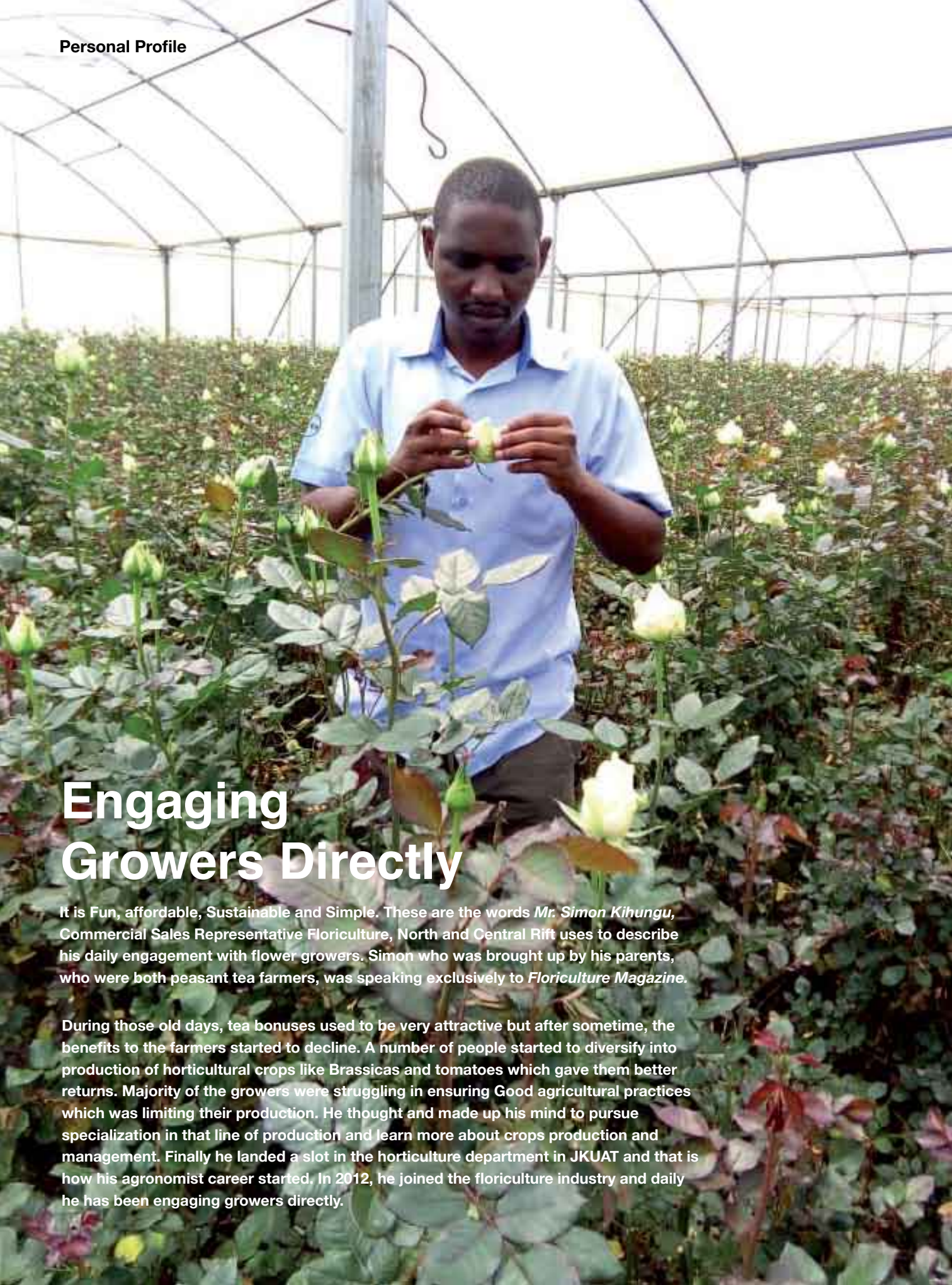
Have peace of mind with the Smart solution for Powdery Mildew

- Reliable control of powdery mildew for more than 30 years!
- Long lasting protection
- Good curative action with excellent antisporulant activity
- Easy to use with new and advanced eco packaging
- Gives opportunity for tank mix with **Collis®** in adverse situations. (Meltatox® and Collis® at the rate of 1.5 ℓ/ha and 1ℓ/ha respective"

BASF
We create chemistry

Joseph Muita, Ornamentals Manager - Kenya
E-Mail: joseph.muita@basf.com • Mobile:+254 721 295 259

BASF East Africa Limited
The Pavilion, 6th Floor Lower Kabete Road, Nairobi, Kenya
PO Box 00100 24271 Nairobi, Kenya
Tel: 254 20 4072000
https://agriculture.basf.com/ke/en.html
info.eastafrica@basf.com



Engaging Growers Directly

It is Fun, affordable, Sustainable and Simple. These are the words *Mr. Simon Kihungu,* Commercial Sales Representative Floriculture, North and Central Rift uses to describe his daily engagement with flower growers. Simon who was brought up by his parents, who were both peasant tea farmers, was speaking exclusively to *Floriculture Magazine.*

During those old days, tea bonuses used to be very attractive but after sometime, the benefits to the farmers started to decline. A number of people started to diversify into production of horticultural crops like Brassicas and tomatoes which gave them better returns. Majority of the growers were struggling in ensuring Good agricultural practices which was limiting their production. He thought and made up his mind to pursue specialization in that line of production and learn more about crops production and management. Finally he landed a slot in the horticulture department in JKUAT and that is how his agronomist career started. In 2012, he joined the floriculture industry and daily he has been engaging growers directly.

Fresh, Forward Thinking

Born and brought up in othaya sub county, Nyeri county. Mr. Simon Kihungu completed his Primary and Secondary School education successfully. In 2003, he joined JKUAT where he pursued BSC in horticulture degree course and graduated in 2007 then joined Bayer East Africa Ltd immediately after completing his undergraduate studies. Upon joining Bayer East Africa Ltd, he started as a product promoter in charge of Nyeri, Laikipia East and the central parts of Murang'a. He then moved to Coast as the area sales representative for the region and one year later joined the floriculture sector. He speaks to *Floriculture Magazine* on his daily challenges

Briefly discuss the challenges you go through daily? What would you point out as your strongest attribute that has made you succeed?

Just like any other job, there are common challenges that do occur in the line of duty. However, with the support from my company and good relationship and support from my clients, together we succeed.

In your experience, discuss some of the challenges flower growers are facing?

Currently growers face unpredictable trend in the market, Adverse weather conditions favouring rapid development of diseases, Restriction on pesticide usage by specific markets leaving farmers with limited choices of pesticides, Emergence of some difficult to eliminate pests like thrips, Incidences of Crown gall which is caused by Agrobacterium tumefaciens.

How do you rise up to the greatest challenge that your job presents?

First is to understand myself, my customers and the industry. Secondly, I try to be flexible always which has enabled me to adapt into different situations.

Point out the solutions Bayer EA Ltd has for the flower sector?

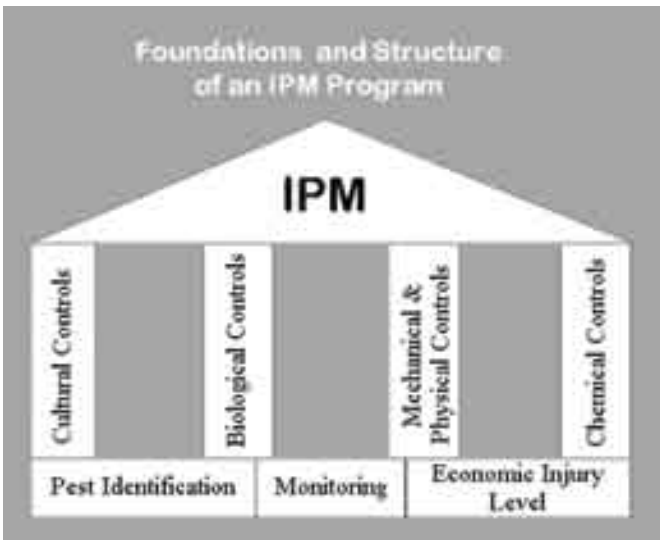
Bayer East Africa has wide range pesticides that are used in the management of most insects' pests and diseases that affect the production of flowers in kenya. These products are IPM compatible.

To mention, we have the following solutions to these challenges that affect growing.

1. Impulse and Luna tranquillity for Powdery mildew management.
2. Alliete flash, Previcur energy, infinito, Verita and Melody duo for downy mildew management.
3. Luna tranquillity, Scala and Teldor for Botrytis management.
4. Velum prime the new innovation for nematodes management.
5. Confidor WG 70 for thrips management. The product also offers 'stress shield effect' to the crop.
6. Belt for Caterpillars

What is the role of the agrochemical sector to the development of the flower Sector?

In growing, insect pests and diseases invasion can become a limiting factor. To manage these pests we need an integrated approach where various methods of controlling them are employed. These measures include Biological, Cultural, Mechanical and use of chemicals. Therefore the use of chemicals forms an integral part of IPM



Mr. Simon Kihungu with his Coleague

From Page 33

How do you see Bayer EA Ltd contributing to the future of the flower sector?

Bayer East Africa is introducing new innovations into the flower sector which will help in the pesticides resistance management. Beside the products, the company is well represented at farm levels which helps in the dissemination of information and enhance sharing of the product knowledge with the end users. As Abhishek Ratna said, “Information is the key to success, anywhere and everywhere. Right information matters the most. This applies to your work place too.”

The staffs on the ground also educate the chemical handlers on safe use and effective handling of pesticides which has a direct impact on the protection and safety of the handlers and the environment.

Growing up, who was your inspiration?

I was greatly inspired by my elder brother who also taught me Physics and mathematics in high school.

What decisions have you made in your career that looking back you feel were mistakes and you learned from them?

I have never had such a case and I hope things will continue running smoothly and successfully.

Describe your ordinary day? Do you have enough personal time?

Alexis Carrel Said, “The most efficient way to live reasonably is by making a plan of one’s day every morning and examine the results obtained every night.” Then Benjamin Franklin said, “By failing to prepare, you are preparing to fail.”

Time management and proper planning is very important if one is hoping to achieve his/her daily, weekly, monthly or annual goals. I wake up every morning with predetermined goals/targets and with proper planning and management of time; I close my day business having accomplished my goals. This also gives me enough personal time and family time as well.

What legacy do you want to leave behind in the Flower sector?

I expect to give my best to all the stakeholders in the Floriculture sector and be one of those who will help the industry move to greater heights.

Give your final comments

Starting today, create a vision for yourself, your life, and your career. It’s good to bounce back from adversity and create what you want, rebuild and rebrand. Always tell yourself it’s possible along the way, have and maintain patience with yourself during the process.


Kordes-Rose
Infused Pink®

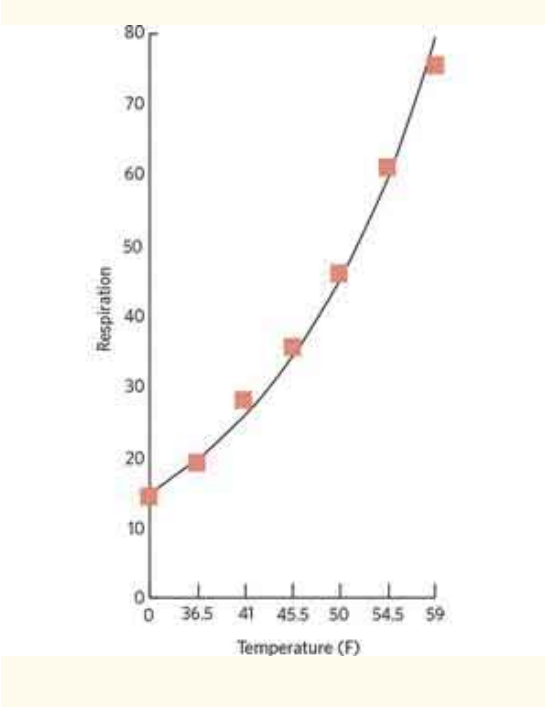
Chill Out: The Importance Of Keeping Flowers Cold

The spread of diseases such as botrytis on flower petals and growth of microbes in bucket and vase solutions are reduced significantly at cold temperatures.

In the floral industry, there's increasing recognition of the importance of cold temperatures — and providing cold temperatures for every flower from the point of harvest to the point of sale. (One notable exception to this rule: tropical flowers.) And, just for clarity, "cold" means 34 F to 36 F.

Why is the cold so important?

Low temperatures extend vase life and optimize the performance of cut flowers. Moreover, cold temperatures are easily managed by adjusting the thermostat and monitoring the temperature in the cooler. Sounds simple enough, right? In theory, yes, but in reality, and for various reasons, it is not unusual to observe coolers at 42 F to 45 F. Those higher temperatures reduce flower life, which can lead to disappointed customers.



Why does cold temperature have such a big influence on the performance of flowers?

Three factors help explain the science.

Respiration

Flowers use stored sugar and starch to maintain the structure and function of cells in the flowers, leaves and stems. Sugars provide the energy for flowers to open and to extend flower life. Without sugar, cells starve, blooms fail to open, and death occurs prematurely. Cold storage temperatures lower the respiration rate and allow sugars to be conserved. See the graph for an illustration of how rapidly consumption of sugars and starch increase as temperatures rise. Flower foods provide sugar to supplement the stored sugars used by the flower during storage, shipping and handling.

Ethylene

Ethylene kills flowers. At cold storage and shipping temperatures, however, flowers are less sensitive to atmospheric ethylene and do not produce as much ethylene internally. In fact, flowers are 1,000 times more sensitive to ethylene at 65 F than they are at 35 F.

Diseases and Microbial Activity

The spread of diseases such as botrytis on flower petals and growth of microbes in bucket and vase solutions are reduced significantly at cold temperatures. Botrytis spores grow and destroy flowers rapidly at warm temperatures. These spores are not killed by cold temperatures, but the spread of the disease is much slower. Microbes block the flow of water up the stem. Microbes present in bucket and vase solutions grow much faster in warmer water.

Realizing how cold temperatures affect respiration, ethylene and disease makes it possible to extend the life of flowers. But temperature is only one of the key factors in flower life. Equal priority needs to be placed on the other factors affecting the absorption of water, particularly scrupulous sanitation, ethylene management and the use of properly prepared hydration and flower food solutions.

FRUITS, VEGETABLES & HERBS CONFERENCE & EXHIBITION

5th - 7th September 2018

KENYA SCHOOL OF MONETARY STUDIES

Fruits, Vegetables And Herbs Conference And Exhibition 2018

Kenya has enjoyed a big market share in selling the horticultural produce both locally and internationally. Locally, with its own citizen's increased consumption being a result of improved livelihoods and change of lifestyle. In domestic markets, sales are done through supermarkets, open markets, green groceries and hawkers who vend on highways and city centers and also through retailers referred to as mama "mbogas." External markets are reached through exporters to various destinations including Europe, China, Canada the Middle East and other countries abroad.

Kenya has focused on enhancing production efficiency and diversifying to other non-traditional export markets such as the Middle East, China, Japan, Australia and New Zealand. It also sought to maintain competitive advantage by focusing on products that have higher standards, Sanitary and Phytosanitary Standards (SPS) and others, by increasing variety and product differentiation and by shipping direct to the major supermarket chains.

There has been tremendous growth in the horticultural industry which has been driven by increased demand for high quality, diversity and convenience both in the domestic and export market. Sustaining this growth for the benefit of all actors will require a major shift in the horticultural value chains to ensure efficiency and quality assurance. Of great interest is the transformation of edible horticultural produce (fruits, vegetables and herbs). This includes various forms of value addition including grading and sorting, commodity treatments, specialized packaging, minimal-processing, full-scale processing among others. Value addition pushes the actors from downstream (low-return) activities to upstream activities with better returns.

Realization of these benefits will require application of innovative technologies, practices and strategies in an enabling policy environment. It also requires strict adherence to good agricultural production and manufacturing practices that ensure high quality and safety of the value-added products.

This will require concerted efforts of all stakeholders in the horticultural value chains including farmers, traders, extension service providers, government, development partners, entrepreneurs, researchers among others. If fully exploited, agro-processing to preserve the produce and develop value-added products and services will enhance food and nutrition security, promote access to markets, and create more jobs and gainful employment especially for the youth.

The emergence of local standards – KS1758 and traceability systems such as the National Horticulture Traceability System (HTS) coupled with increased surveillance and awareness driving consumer demand for safe produce, presents producers and other value chain actors with new challenges and opportunities.

The conference is aimed at bridging the market to the farmers, discussing systems and better solutions that can promote aggregation, value addition and agro -processing.

Challenging Thrips

Thrips represent probably the number one pest in ornamentals, not only in Kenya but also globally. If we were to ask a Kenya rose grower what was number one pest, ten – fifteen years ago this would have been definitely red spider mite. However, spider mite control has moved on. Now we have predatory mites *Phytoseiulus persimilis* and *Amblysieus californicus*, we have biopesticides like Achieve and finally we have the organosilicon physical action sprays. These products have transformed the control of spider mite in Kenya. So where are we with thrips and why is this pest seemingly such an intractable problem.

By Henry Wainwright

Identification and damage

The thrips we mostly get in ornamentals in Kenya are the Western Flower Thrips (WFT), *Frankliniellaoccidentalis*. The adults of thrips are easy to see, as they are small, slender insects and wings tightly tucked into their bodies. For the larvae they are more difficult to spot as they are lighter in colour (translucent yellowish), smaller and usually hide in small crevices of the plant. The larvae do not have wings and so cannot fly. The damage is caused by the thrips feeding on the soft plant tissue like flower petals or young green tissue. Older leaves are rarely attacked by thrips. The adult puncture the outer layer of the plant tissue (epidermal layer) and suck the cell contents out of the leaf cells. This can lead to discolouration and flecking and cell necrosis (death). In addition this dead cell becomes susceptible to secondary infect of botrytis. Therefore increased thrips damage is often associated with increase flower head botrytis. For the larvae damage have more of a scratching appearance as they move in small lines rather than the single point damage of an adult. Regardless of whether damage is caused by an adults or larvae of a thrip, the consequence is a rejected flower if damage has occurred.

“ There is no silver bullet or single effective control measure. What is required is an integrated approach.” **Henry Wainwright**

Life Cycle

The success of thrips as a pest is due to many features but one of the most important survival strategies is through its life cycle. As shown in the diagram, thrips both exist on the plant, in the air and finally in the soil. The eggs are laid on young leaves, buds and petals often in crevices and cracks. The eggs hatch and the larvae can immediately begin to feed and cause damage. There are two larvae stages before the non-feeding stage (pre-pupa and pupa) develop and drop to the ground. From the pupa the adult emerges and flies off looking for new egg laying sites. This means that efforts to control the thrips have to look at all the different stages of the life cycle. This is further complicated because there is no one single control method that works for all stages.

Unlike *Phytoseiulus* for spider mite control, as this predator can control all stages (eggs through to adults) but this is not the case with thrips. Other characteristics that make thrips a successful pest include The thrip is described as having a cryptic and thigmotactic behaviour, which means it likes hiding. This reduces the likelihood of getting contact insecticides to control the pest. The thrips have fast reproduction cycle taking no more than 7 days at 25^{0}C to complete the life cycle. This is one reason why pesticide resistance develops quickly. The development of resistance in thrips to many pesticides has been a major contribution to why thips have become increasing difficult to control with conventional pesticides. Resistance can also develop where growers overuse single active ingredients/mode of actions such as spinosad or neonicotinoid containing pesticides.

Another important question is, where do the thrips come from? This has long been an issue that is not yet fully answered. Either the adults emerge from the pupa in the greenhouse soil or they arrive from outside. Thrips are essentially weak fliers and come in the direction of the wind. This can cause the numbers to dramatically increase in a short time if they migrate from outside, such as cereal are being harvested in the locality. The cereal thrips though they can feed on crops like roses they do not establish and breed in a rose crop. However, we also get WFT located in hot spots in a greenhouse and these hot spot are hard to eliminate. This suggests that these are “homegrown” thrips originating from the soil in that area of the greenhouse. Increasingly we see this permanent present of thrips in crops as a new development and hard to eliminate.

Managing thrips

There is no silver bullet or single effective control measure. What is required is an integrated approach using the many weapons that have been developed. Because of the complex life cycle there are separate strategies of each life cycle stage as illustrated in the diagram. These include:

Monitoring.

The rapid and accurate detection of thrips level is the first basic step in controlling thrips. This can involve tapping the flowers onto white paper and counting the thrips, simple visual inspection or using sticky traps as monitoring devices. The easiest stage to monitor is the adult but thrips larvae can also be assessed but they are more difficult to detect. The historical assessment of trends is also of practical help as this allows the grower to assess trends and the effectiveness of controls. Tools such as Scarab scouting offer more sophistication and easier quantification to enable informed crop protection decisions. When monitoring thrips the scout must appreciate that, the thrip behaviour changes during the day so it is always best to scout at the same time every day to enable accurate comparison of different day’s data. Also in the middle of the day

To Page 40

From Page 39

chances of seeing and recording thrips is lowest.

Adult control.
Pesticides have been the primary method of controlling adults through contact and systemic activity. However, with the increase in pesticide resistance and the pressure of consumer to reduce pesticide other methods of control will be required. Mass trapping, through the use of sticky traps has been increasingly adopted, primarily blue but yellow has been shown to very similar in thrip catches. The thrips that migrate into greenhouses then barriers, such as thrip proof netting has been shown effective and has been widely adopted in the cutting industry. The use of netting for rose growers is under review by many growers; however, the challenge is that the netting changes the environment (humidity and temperature) which might bring other problems such as diseases.

Larvae control.
One of the most successful methods of control that has been adopted in recent years has been the use of predatory mites. The most established predatory mite has been *Amblyseius cucumeris*. Though it does not breed in the rose crop, the cost is relatively low, so they can be introduced regularly as a prophylactic control. More recently, we have seen the adoption of *Amblyseius mondorensis*. This is a useful mite as it not only feeds on both stages of larvae (which *cucumeris* does not), but it will also eat spider mite. Interestingly Monty is being adopted world-wide as a thrips larvae solution.

Pupa control.
The pupa and pre-pupa stages in the soil are often been neglected in the control strategy of growers. Their management will not assist those thrips that migrate into the greenhouse from outside but for the home grown thrips and hot spots their management is essential. Predatory soil

mites such as *Hypoaspissclerotarsa* have been shown to be effective in reducing thrips damage when applied to the soil on monthly intervals. A benefit of *H.sclerotarsa* has been that it has reduced the level of mealybug in the soil, which are often a source of infection to young rose crops.

Cultural control.
Western Flower Thrips have many alternative hosts. It is always good to check the plants surrounding the greenhouse to assess whether they are harbouring thrips that will migrate into the greenhouse. Sometimes these are not always possible to eliminate such as near-by coffee or cereals but flowering plants of different sorts can be managed. Discarded flower heads also contain thrips so removal and disposal of rejected flowers heads well away from the greenhouse are important. The use of mulches under rose crops has recently shown to reduce thrips emerging from the soil pupa. They give rise to a drier crop and can reduce diseases but can increase the spider mite pressure due to the lower humidity in the crop. Finally, there are big differences in the susceptibility of different roses varieties to thrips attack. Knowledge and the ability to anticipate thrip problems is an tool for the grower.

Better spraying.
Pesticides and biopesticides such as Campaign (*Metarhizium*) and Prevail (*Beauveria*) are applied trough conventional spraying programmes. However there is also need to ensure that their spay application is optimised. Calibration and sprayer maintenance are key. Additional growers have looked to attractants and exiters to lure the thrips adults and larvae out of hiding. This has involved mixing with the sprays sugars or molasses. More recently the incorporation of exciters such as Pullit into the spray tank, based on flower volatiles, excites the trhips and pulls them out of hiding so they are more exposed to the controlling spray.

Going forward thrips management will be of increasing concern to the Kenyan rose grower. It is number one pest and the control strategies are complex and difficult to manage. At Real IPM we have prioritised this as the pest requiring the most development in terms of new solutions. The crop protection tools available to the grower are increasing every day, however there is no silver bullet.

PACKAGING MATERIALS LTD

P.O. Box 39901 Code:00623 Nairobi, Kenya. Mob: 0722 524 934 /0721 256 689/ 0722 377 877 Email: pacmat2002@yahoo.com /gmail.com

We will provide free services on the strapping machine if you use our strapping

Box Binding

Packaging Tapes

Plastic Strapping Sealer

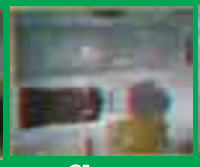
Plastic Strapping Rolls Plain and Printed

Stretch Film

WIDELY APPLICABLE TO ANY SIZE OR SHAPE FOR TIGHT & QUICK STRAPPING

Safety Equipments and Agricultural Tools also available

Respirator



Gloves

Tape distributor

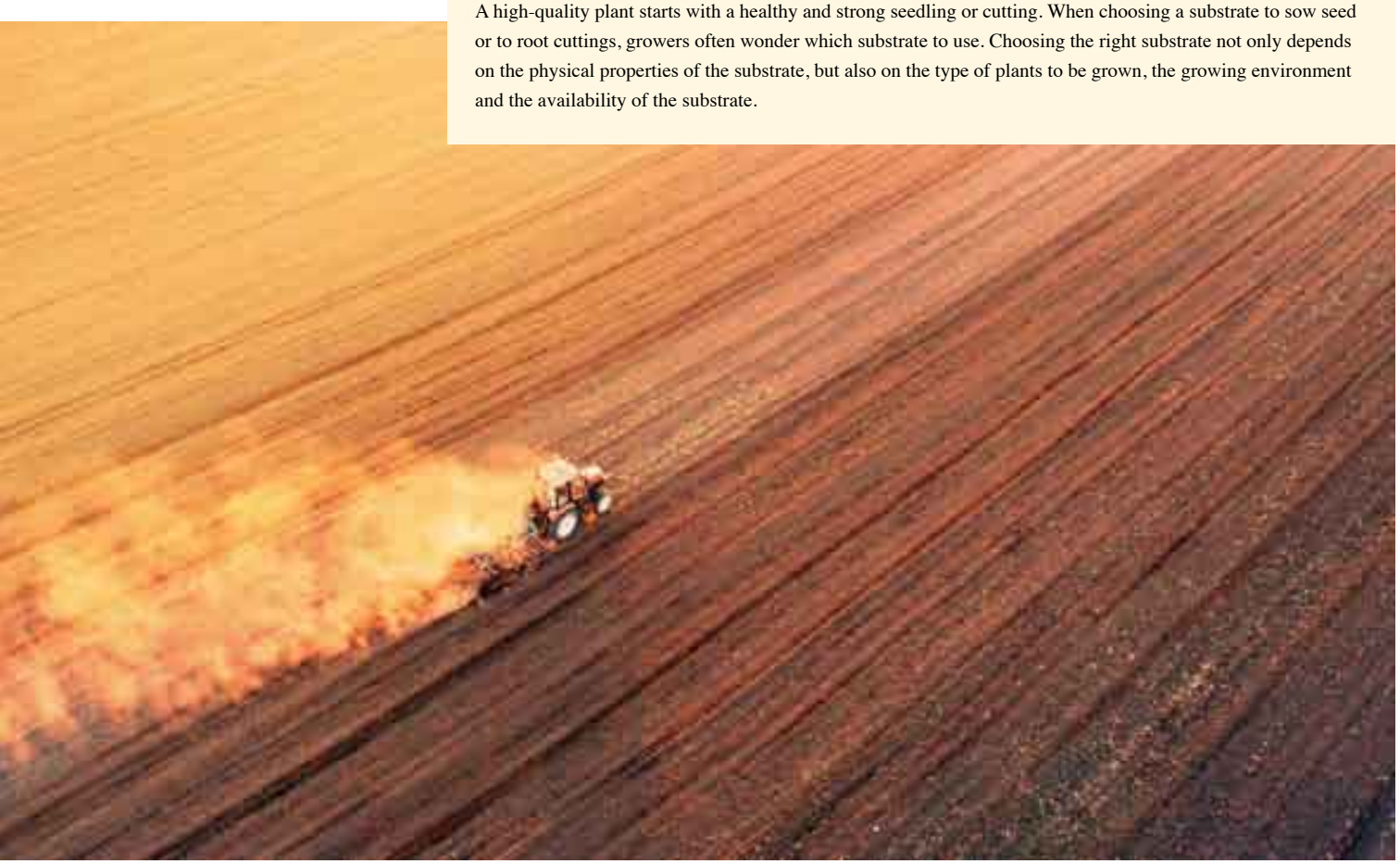
Rubber Gloves

Secateurs

Pet Strapping

How Substrate Structure Influences Water Holding Capacity

A high-quality plant starts with a healthy and strong seedling or cutting. When choosing a substrate to sow seed or to root cuttings, growers often wonder which substrate to use. Choosing the right substrate not only depends on the physical properties of the substrate, but also on the type of plants to be grown, the growing environment and the availability of the substrate.



Substrate is comprised of a large number of particles. The particle size distribution defines the substrate's texture. Components such as peat moss, perlite, vermiculite, bark, coir, wood fiber, sand, etc. have particles of different shapes (granular, blocky, prismatic, platy or massive), and the size can be coarse, medium or fine. The size of the particles depends on the nature of each component. The structure of a substrate is determined by the way in which the particles are arranged in the substrate.

Terminology Used

- **Water Holding Capacity**

The volume of water retained by a saturated growing medium after it is allowed to drain.

- **Available Water Holding Capacity**

The portion of the water that makes up water holding capacity and that is available to plant roots.

- **Unavailable Water Holding Capacity**

The portion of the water that makes up water holding capacity and that is unavailable to plant roots.

• Air Porosity

The volume of air retained by a saturated growing medium after it is allowed to drain.

When blending a growing medium, the various particles pack together, leaving voids which can be classified as macropores or micropores. Macropores are large pores formed between large particles that readily release water, thereby decreasing water holding capacity, and serve as an air reservoir for root respiration.

Micropores are the small pores formed between small particles, and with the adhesive and cohesive forces of water, it remains in the micropores, contributing to the available water holding capacity and unavailable water holding capacity of the substrate (see terminology table for meaning of these terms). Micropores serve as a reservoir for water and nutrients when the plant needs them. A substrate with fine particle sizes generally retains more water than a substrate with coarse particles.

Young Plant Substrates

For seed germination or cutting production, it is important to use a substrate with fine particles that creates high water holding capacity not only because water is needed for seed germination or for root formation on cuttings, but they are often grown in cells with a small volume of substrate. Substrates with finer particles have lower air porosities, but within the category of germination and propagation substrates, water holding capacity and air porosity can vary.

Transplanting Substrates

Once the plugs or liners are of sufficient size, they are transplanted into larger containers. Some crops can be in these large containers for several months, much longer than in the plug or liner stage. So it is important that the substrate's structure and stability changes little during this crop cycle, which would affect the water holding capacity and air porosity.

Take long-term crop for example. This crop usually struggles with root disease towards the end of the crop cycle because the structure of some substrates has detrimentally changed. Regardless of the season, crop and type of plants, the structure and the stability of the substrate is compromised through loss of air porosity and increased unavailable water holding capacity.

"It is recommended to use a substrate with different pore sizes to release the water at different negative pressures."

This is due to frequent waterings (drops hitting the substrate's surface can cause compaction, saturation of the substrate (meaning it does not dry out rapidly), slow absorption of water by the roots and slow root growth (both due to decreased air porosity and increased unavailable and possibly available water holding capacity). Also, the natural biological or chemical degradation of substrate components creates fine particles.

Importance of Substrate Structure

As mentioned, the structure of the substrate will change overtime: collapsing of the macropores from watering compaction, natural decomposition of the substrate particles, and mechanical damage of growing medium particles due to root growth. The last two create fine, broken particles which settle between and within macropores, reducing the number of macropores. This results in a decrease of available water holding capacity, air porosity and drainage, whereas unavailable water holding capacity increases and the dry-out time between waterings is going to be slow. As a result, it is very important to choose a substrate that will maintain its structure and stability throughout the duration of the crop.

Substrate Texture's Influence on Water Holding Capacity

Finally, the structure and the texture of the substrate have a great influence on the water holding capacity. As mentioned before, the water content will depend on the type of pores in the substrate. A substrate with a single pore size will release all the water at certain negative pressure or suction. Therefore, it is recommended to use a substrate with different pore sizes to release the water at different negative pressures.

In a substrate composed of small particle sizes, like humus, the water holding capacity will be high. However, the high water holding capacity of the substrate does not mean that more water will be available for the plant. The water held by these small particles is highly attached to them and the plant will need more energy to obtain it. In addition, root respiration and plant growth will be negatively affected.

In conclusion, a substrate with fine particles is not recommended for container production because fine substrates retain more water than a coarse substrate due to capillarity. In addition, air porosity and drainage will be limited. If a coarse substrate is used for small cells, the water content will be low, the drainage and the air porosity will be high, and therefore, frequent waterings will be required.

We Must First Tackle Graft

My prayer is that we all develop the culture of leveraging data to make decisions. Our analogue methods of monitoring and evaluation have failed and are deceptive given that there are far too many gatekeepers in the chain.

By Bitange Ndemo

In 2016 the new president of the African Development Bank (AfDB), Akinwumi Adesina, sought to focus his attention on five priority areas that in his view were central to accelerating Africa's economic transformation.

He coined the word "High 5s" to promote this important agenda: light up and power Africa; feed it; industrialise it; integrate it; and improve the quality of life of its people.

A closer look at these priority areas reveals that they are almost precisely the same as President Uhuru's Big Four. It has become clear that the five are now the bank's mantra. Yet, there isn't much evidence that member nations know how to utilise the resources from the bank to address their priorities.

Africa's annual food import bill of $35 billion, estimated to rise to $110 billion by 2025, weakens African economies, decimates its agriculture and exports jobs from the continent. This is a tragedy because nothing is changing. The farming methods remain subsistence, land subdivisions continue unabated, post-harvest losses still remain high as the number of tenderpreneurs keep rising.

Trader Mentality

The concept of tenderpreneurs emanates from the trader mentality facilitated by public-sector tendering processes. It is some sort of disease where incubating an idea for the benefit of the majority – which public-sector objectives aim to achieve – does not feature. It is a "me" first and to hell with everybody else. While some call this corruption, others refer to it as unethical behaviour, but in my view it is all the above and a lot more than the public gets to know.

For President Uhuru and Adesina to make a dent in their priority areas, they have to fight this scourge first and build a new culture of self-sustenance.

Food Security

First, we will never learn to create the items we import. Second, in the absence of any exports to China, China will always have a huge trade surplus with Africa. In other words, we are not thinking about a sustainable future in the event we have nothing to bring in foreign currency.

But the more critical point is on food security. This sector has the tenderpreneur virus. A few people sit and decide what resonates well with the general public then they proceed to implement. Fertiliser is one such quick deal. Agricultural economists should have warned about the dangers of subsidies for this commodity to subsistent farmers dispersed across the country, as it poses a logistics nightmare. Something the tenderpreneurs love to exploit.

Dependent Country

Kenya will find it difficult to attract serious large-scale investors, especially in maize, which in international lingo is now classified as a political crop. The annual dance-around with subsidies benefits only a few. The government has no business interfering with the sector. Kenya, by shifting to importing food, is increasingly becoming a dependant country. That is a spitting distance to an enslaved continent. If I were the president, I would want daily data on food production.

Data-Driven Policymaking

My prayer is that we all develop the culture of leveraging data to make decisions. Our analogue methods of monitoring and evaluation have failed and are deceptive given that there are far too many gatekeepers in the chain.

To succeed in both food security and manufacturing, we must build agricultural parks and industrial parks to enable the free flow of ideas and build local capacity.

For example, the Galana-Kulalu project should have been the agricultural park, with 500,000 acres given to investors for free in return for helping locals (not proxies for locals) to develop large-scale farming capacity in the next 500,000 acres such that every year we must have at least 100 local people qualified to produce on a large scale. The same can be replicated for a technology park where part of the requirement to be based there is technology transfer with tangible numbers.

We can achieve Adesina's priority areas but only if he himself, policymakers and financiers adopt and develop a new data-driven approach to development. That is where the legacy lies.

Agrichem Africa Limited®

IFTEX

International Flower Trade Expo

2017 in Pictures

Peter Muraya (front-row sitted 2nd left) and Shirish Ingale (front-row sitted 3rd right) follow proceedings during the IFTEX 2017 Opening Ceremony

Shiraz Karmali (right) in discussion with a guest at our exhibition stand during IFTEX 2017

Shirish Ingale, Sales Director accepts the Silver Award during IFTEX 2017 from Richard Fox, KFC Chairman

Shirish Ingale (left) welcomes a guest at our exhibition stand during IFTEX 2017

Guests enjoy entertainment performance at IFTEX 2017

Shiraz Karmali (front-left) and Murad Karmali (front-right) entertain at our exhibition stand during IFTEX 2017

Shiraz Karmali (left) Shirish Ingale (second-left) and Patrick Muthengi (centre) engage consumers at our exhibition stand during IFTEX 2017

Shirish Ingale in celebratory together with our exhibition stand attendants at IFTEX 2017

Mr. Anelich Rupert

"The new product is part of a strong innovation pipeline Arysta LifeScience is slowly rolling out. We have a tremendously strong pipeline of new products that we look forward to rolling out in the region. We believe the new innovation will not only effectively combat disease, but also lead to increased yields and ultimately more money in farmers' pockets."

Arysta LifeScience Launches DISARM® 480SC Fungicide in Kenya

DISARM® 480 SC provides a wide variety of plant health benefits, resulting in improved yield and quality.

Flower growers in Kenya were treated to a series of events by Arysta LifeScience who launched their latest strobilurin innovation Fungicide - DISARM® 480SC. Powered ***With Xylem Pro technology ™*** that makes it the most systemic strobilurin in the market todays affording growers , fast-acting, and long residual effect The events held in Nairobi, Nanyuki, Nakuru and Naivasha provided growers the opportunity to unpack the challenges of Powdery mildew control and how to proactively manage the yearlong disease.
In organising the events, Arysta LifeScience Kenya partnered with Amiran Kenya Limited the exclusive distributors of DISARM® 480 SC

Mr. Anelich Rupert, Arysta LifeScience Head of Regulatory Southern and East Africa (aka the strobulirin expert within Arysta LifeScience Circles) joined the Kenyan team to grace the occasion and was the guest speaker for the whole week in Kenya and clarified to growers in the different regions why DISARM® 480 SC is not any other Strobilurin.

Why DISARM® 480 SC?

With Xylem Pro Technology TM - Rapid Penetration into the Leaf and Rainfastness.

Fluoxastrobin the active ingredient in DISARM® 480 SC was designed to provide the optimum balance of lipid and aqueous solubility for penetration into the leaf cuticle, residual effect and translocation through the plant. Fluoxastrobin residues form a “reservoir” of active ingredient in leaf tissues and provide outstanding performance under a variety of conditions. Under greenhouse conditions, rainfastness can be demonstrated in as little as 15 minutes by bioassay.

This characteristic, as well as rapid penetration and transport, has been trademarked as “Xylem Pro TechnologyTM”. When applied at the base of the plant, it can be seen to move through the treated leaf, creating a uniform, protective barrier.

DISARM® 480 SC provides a wide variety of plant health benefits, resulting in improved yield and quality. These effects have been demonstrated to be of value addition in Roses and other crops. Fluoxastrobin chemistry has demonstrated to have an unmatched benefit on a wide variety of physiological processes, including: reduced ethylene production, increased efficiency of carbon assimilation, increased nitrogen fixation, increased water use efficiency and more efficient uptake and use of nutrients. These effects translate to a number of plant health benefits, including: slowing effects of maturing which keeps the plant greener for longer and extends the flowering time, increased opportunity of crop to maximize yield and tolerance to adverse conditions and quicker recovery.

The events held in Nairobi, Nanyuki, Nakuru and Naivasha provided growers the opportunity to unpack the challenges of Powdery mildew control and how to proactively manage the yearlong disease.

The fungicide that has been designed for optimum retention, penetration and distribution within plants. It penetrates rapidly into the leaf and leaf surface, with rapid rainfastness and speed of activity.

The product is primarily used as both curative and protectant fungicide, with outstanding residual properties. Fluoxastrobin-based products have been demonstrated to be very effective when used as foliar sprays, in-furrow and soil applications and seedlings treatments.

Usage

As a new and latest generation strobilurin, DISARM® 480 SC combines broad-spectrum activity against all fungi at low use rates.
It is also formulated as a highly-concentrated product, meaning that less product is required per ha as compared to other products.

Where can I buy?

Amiran Kenya Ltd are the exclusive distributors of DISARM® 480 SC in Kenya.

Salvaging Tomatoes

Salvaging Tomato Production in Kenya from the Menace of Pest and Diseases. The case of– Tuta Absoluta and Fusarium wilt root-knot nematode complex.

Why tomato?

Tomato is one of the most important vegetables grown in Kenya. It plays a critical role in income generation and creation of employment for both rural and urban populations, in addition to meeting food nutritional requirements. Tomato is a nutritious vegetable that provides good quantities of vitamins A and C.

Tomatoes are used in many cooking recipes or as a fresh item in combination with salads. Tomatoes are grown for the domestic market under both rain-fed and irrigated conditions. Due to the high demand for tomato, farmers have extensively adopted high yielding varieties and modern technologies like greenhouse production to ensure year round increased production. Commercial farming of this important crop is however under immense threat from pests and disease, mainly Fusarium wilt, Nematode complex and the Tuta absoluta (tomato leafminer). Some farmers have reported yield losses of up-to 80-100 % per growing season.

Tuta absoluta

Tuta absoluta commonly known as the tomato leaf-miner, is a very harmful leaf mining moth with a strong preference for tomatoes. Measuring a mere 7mm, this invasive pest is considered a serious threat to tomato production worldwide. It also occurs on eggplants, sweet peppers as well as potatoes and various other cultivated plants. Tuta absoluta can cause 50-100% yield reduction on tomato crops and its presence may also limit the export of the product to several destinations. Prevention and proper management of the pest is crucial. Chemical control often fails due

''As new trends emerge, Kenyan farmers in the future will have to innovate continuously in order to remain competitive; the farmers will need to respond to the permanent pressure on margins, professionalism, increase demand and face growers in abroad countries with excellent farming techniques''

to the resistance of the pest against many pesticides, but also because a big part of its development takes place inside the plant or the soil, out of reach of pesticides.

Fusarium wilt

Fusarium wilt is one of the major diseases of tomato in Kenya. Fusarium wilt in tomatoes is caused by a fungus which is soil borne and can survive indefinitely without any host. Most occurrences are associated with infected tomato debris left in the soil. An infected tomato will begin yellowing on the bottom leaves. The yellowing will begin on one side of the leaf, shoot, or branch and then slowly spread out and up the vine. The vines will brown along the veins and eventually wilt permanently, resulting in a stunted plant. If the plant does not die, it will be weak and produce low quality tomatoes. Fusarium wilt can survive for years in the soil and is spread by water, insects and garden equipment. It develops during hot weather and is most destructive when soil temperatures approach 27°C. Dry weather and low soil moisture encourage this plant disease. In spite of the high tomato losses associated with Fusarium wilt its control is limited to use of fungicides which are unaffordable by the many poor resource Kenyan farmers. There is therefore need to seek alternative control measures that can be attractive to a poor resource farmer.

Root-knot nematodes

In Kenya root-knot nematodes are widely spread in all tomato growing areas and hence are a major concern to both smallholder farmers and commercial producers. Losses in yields range from 28% to 68%.The small-scale farmers fail to recognize nematodes because they are found in the soil and their above ground symptoms can be mistaken for nutrient deficiencies and climatic changes especially drought.

Root knot nematodes survive by feeding directly off nutrients pumped through tomato roots. They form galls that can reach up to an inch wide where they hide and reproduce, causing a number of symptoms on the plant. Yellowing plants, stunted growth and general decline are early symptoms of the disease. Their microscopic size make it difficult to identify them and farmers are required to dig up the crop to check on the presence of root-knots which is not a common practice. Prevention against nematodes is difficult because nematodes cannot be eradicated completely from the field.

"As new trends emerge, Kenyan farmers in the future will have to innovate continuously in order to remain competitive; the farmers will need to respond to the permanent pressure on margins, professionalism, increase demand and face growers in abroad countries with excellent farming techniques"

It is against this backdrop that Koppert Biological Systems Kenya partnered with Kenyatta University and Koppert BV Netherlands in a Food & Business Applied Research Fund (ARF) project meant to tackle the two greatest threats to tomato farming -Tuta absoluta and Fusarium wilt-Nematode complex. This is in a bid to salvage an industry that rakes in approximately KES 14 billion annually. The project involved farmers in Mwea area of Kirinyaga County, one of Kenya's leading tomato production regions among other tomato growing areas. Additionally, the project also enhanced and facilitated knowledge exchange and dissemination whilst building the capacity of farmers, agricultural extension officers and other stakeholders.

Pesticide use not sustainable

What many farmers came to know is that pests like Tuta absoluta, which have a short generation time and high reproductive potential, are at an increased risk of developing

Tomatoes are grown for the domestic market under both rain-fed and irrigated conditions. Due to the high demand for tomato, farmers have extensively adopted high yielding varieties and modern technologies like greenhouse production to ensure year round increased production.

resistance to insecticide use. To avoid a similar predicament, a shift in current pest management practices in Kenya is necessary. An Integrated Pest Management (IPM) strategy that employs a holistic integrated approach is likely to enhance the control of T. absoluta and other pests.

IPM is an ongoing, dynamic system that requires regular review and adjustments of pest control methods for optimal results. The Koppert-Kenyatta University project provide tomato farmers with potent & environmentally friendly pest control solutions and validate the use of IPM strategies to control Tuta absoluta, Fusarium wilt and Nematodes complex in Tomatoes.

The role of biological control

At the heart of this campaign are three superior solutions touted as key in tackling the twin tomato problems.

The first one is Trianum-P, a biological fungicide that protects plants against various soil borne pathogens like Fusarium, Pythium, Rhizoctonia and Sclerotinia. Trianum-P also increases plants' uptake of nutrients by promoting development of a healthier root system and increasing availability of macro and micronutrients.

Secondly, is the NatuGro system, a comprehensive approach which consists of a mix of beneficial biological micro-organisms, plant-specific substances supplemented with professional advice. NatuGro helps plants develop more resistance to attacks; soil borne diseases are tamed while nematodes are managed effectively through enhanced root development eventually increasing yields.

Finally, Pherodis Tuta absoluta (sex-specific pheromone) in combination with Deltatraps and Tutasan watertraps on the other hand are crucial in monitoring and mass trapping of the adult Tuta absoluta male moths. This strategy helps in early detection of the pest and curbs the multiplication before they cause any serious damage. This biological cocktail combined with judicious use of chemical pesticides promises a formidable force in taming out these troublesome diseases and pest.

Mistakes to avoid

Not Hardening Seedlings

Hardening your seedlings is one of the most important things you can do to help ensure their survival. Without hardening, your seedlings won't be able to adapt to the change in temperature or the exposure to weather, like wind and rain.

Planting Too Closely

Planting your tomatoes too closely not only stunts their growth and causes a drop in fruit production, but it also makes it too difficult for sun to reach through the plants. This means your tomato plant suddenly becomes the perfect breeding ground for plant diseases that love the damp conditions.

Tomatoes grown upright in cages need at least 1 ½ feet between them, though 2 feet is ideal. Sprawling tomatoes will require twice the amount of space. While it's not a big deal to leave your plants slightly unsupported, you never want the plant to be touching the ground.

Planting the Wrong Tomatoes

Now that we've covered spacing requirements, the next step is choosing the right type of tomatoes for the amount of room you have. There are two main categories of tomato plants; determinate or indeterminate.

Planting in the Shade

Like other plants that produce fruit, tomatoes need at least 7 hours of sun per day. Placing them in a shady area deprives the plant of the amount of sun it needs, and it will impact how your plant grows.

Fruit production requires a tremendous amount of energy. Like all plants, tomatoes get this energy from the sun.

Not Pruning

If you have more space and opted for indeterminate tomatoes, part of your plant maintenance will be pruning. Reasons for pruning include:

• Since overcrowding makes it easier for plant diseases to spread, neglecting to prune indeterminate plants can be detrimental.

• The foliage on crowded plants will dry more slowly which encourages a variety of plant problems.

• Plants need to be pruned so nutrients are being directed to fruit growth rather than to new leaf growth. Not only will plants produce smaller tomatoes at a slower rate if they aren't pruned, but the overgrowth can also provide the perfect environment for plant diseases.

If your plants are looking diseased, sterilize your shears after use to avoid spreading the disease to healthy plants.

Not Ready For Early Blight

Early blight can leave your plants completely bare of foliage, and if you're not prepared to treat it, this problem can quickly spiral out of control. Early blight is caused by a fungus that can overwinter in soil, so if you've had plants with this problem before, you should avoid planting in that area.

Early blight will first appear on the oldest lower leaves. You'll see brown spots that look like targets, and the leaves will yellow around it. Eventually the whole leaf will turn brown, die and fall off.

To help prevent early blight from devastating your plants, try rotating crops — moving them to a

different area of the garden with fresh soil. However, if your plant is already infected with early blight, you can treat it using an organic fungicide.

Over fertilizing

Feeding your plants is important, but feeding them too much can be just as detrimental as not feeding them at all. If used too frequently, fertilizer can build up in the soil and cause problems.

Fertilizer provides plants with nitrogen, which is great. However, excessive nitrogen can cause your plants to put more energy into growing leaves than growing the tomatoes.

To combat this issue of over fertilization, look for fertilizers specifically designed for tomatoes, or opt for a shovel full of natural compost.

Not Watering Properly

Inconsistent watering can lead to multiple problems for your plants, including blossom end rot. To water your plants correctly, consider:

• Providing your plants with a consistent watering schedule. Ensure they are able to dry out a little bit so they are not drowning, but be sure they don't dry out all the way.

• Watering early before the sun is in full force. Damp leaves can get leaf burn or other issues from lingering water.

Not only will plants produce smaller tomatoes at a slower rate if they aren't pruned, but the overgrowth can also provide the perfect environment for plant diseases.

Here's How You Can Curb Tomato Losses

Tomato farmers have reported losses due to ongoing rains. What do farmers need to know when handling tomatoes to reduce post-harvest losses?

Most tomato losses start from the farm, during the growing period and after harvest. Generally, good agronomic practices will save farmers post-harvest losses. Pest and diseases like Tuta absoluta, caterpillars, tomato blights, anthracnose and bacterial speck are the lead causes of post-harvest losses in tomatoes. During rainy seasons, anthracnose, bacterial speck, damping off, powdery mildew, early and late tomato blight are common. Sometimes the tomato will look good when harvested but two days later, you find it going bad. This may be due to Tuta absoluta embedded in it.

Farmers should also avoid harvesting immature tomatoes. Delayed harvesting also leads to losses as the fruit is perishable. In most cases, marketing losses occur due to glut or spoilage.

What qualities show a tomato variety has longer shelf-life?

There are two major qualities in tomatoes that can guarantee longer shelf-life namely the outer cover and juicy content of the fruit.

The tougher the outer cover, the longer it lasts. Tomatoes with more juicy content after ripening go bad easily. Of course factors such as fertilisers applied, pest and diseases play a major role in the shelf-life of tomatoes.

What are the favourable conditions for storing tomatoes?

Have the area in controlled environment in such a way that there is enough ventilation to reduce the accumulation of heat from respiration.

For longer-term storage, ripe tomatoes can be stored at temperatures of about 10–16°C and 85–95 per cent relative humidity. The area should be free from moisture.

What are the post-harvesting technologies available for farmers?

There are special packaging products that prolong the shelf-life of fresh farm produce. They include Xtend bags which prolong for more than 10 days. Another technology a farmer can apply is to use solar energy to cool rooms where tomatoes are stored. Alternatively, use charcoal coolers to store the tomatoes after harvest.

What is the ideal packaging for transporting tomatoes to market?

A more simpler material is plastic sorting crates. The crates provide more ventilation and are less damaging to the produce than traditional wooden boxes. The plastic crates reduce tomato loss in transit by 78 per cent and are ideal for transporting not only tomatoes but also any other vegetables. These crates are designed to interlock without causing any bruises on the tomatoes during transportation. The wooden boxes host 60 to 100kg of tomatoes, so when they are piled on each other, tomatoes arrive in the market squashed. Besides, wooden boxes are rough, and once the fruit gets a small bruise, infections set in.

What are the challenges farmers face in reducing post-harvest losses in tomatoes?

Most farmers lack knowledge and information on how to minimise post-harvest losses. Some of the losses are avoidable, for instance, if only they did research on the market need, used the right seed and spray suitable crop protection chemicals on time. The market trend is a key determinant to everything in the tomato value chain.

How can farmers ensure they get tomato market?

Establishment of co-operatives will help them have collection centres for the produce and reach bigger market. If there is over production, they can easily add value to the tomatoes instead of letting them go bad and throwing them away.

ELGON KENYA

TRANSFORMING FARMS & LIVES THROUGH TECHNOLOGY

Introduces a new range of irrigation systems

The only irrigation equipment company to supply the full range of accessories including Sprinklers, Drip, Misters and Farmers Kits.

National Park East Gate Road, Off Mombasa Road
Office Line: 0717 88 88 77 / 0733 509 509
Mobile Line: 0707 96 45 96 / 0736 708 546
E-mail: info@elgonkenya.com www.elgonkenya.com

Use Data to Enlighten Public About Budget

Treasury secretary Henry Rotich's 2018/2019 budget proposals are like no other since Independence. Although his intentions were to stimulate manufacturing and create jobs, he may have inadvertentlyput himself in a corner where labour unions and the poor will use him as a punching bag.

Perhaps he needed data to decide what to tax. Not too long ago, Kenyans took to the streets seeking affordable unga (flour) to which the government responded with subsidies. In the past month, farmers in North Rift were on the streets protesting against unknown people who have flooded the local market with cheap foreign maize leaving farmers to suffer with huge inventory.

Corruption allegations at the National Cereals and Produce Board are yet to be resolved. There is no logic in undermining farmers then asking them to tighten their belts and pay tax. They will have no option but to protest in the streets as they have done in the past month.

We have not recovered from the recent protracted labour disputes that disrupted health and educational services in the country. With these new tax measures, we have effectively handed them a genuine excuse for going back to the streets to demand for more money. Taxing essential goods impacts on the poor and it may turn out to be counterproductive as it provokes them to protest.

It is also not wise to tax some services like mobile money, which is playing a huge role in potentially formalising our huge informal sector. The bulk of mobile money users are the poor. The discovery of mobile money has been hailed world over as a tool for inclusivity. It is also only channel for removing money from under the mattresses into circulation. It has become the premier gateway to banking for majority of the poor.

It is through this platform that they receive their salaries. Mobile money is also

Mr. Henry Rotich

increasingly becoming the lens through which the tax authorities can have traceability of receipts and expenditure of individuals. Mobile money services data have the potential to bring more revenue to government if a policy to make the country a cashless economy is put in place.

Greater data analytics and traceability of incomes and expenditure will improve tax compliance and help government to measure the size of the economy. As we move into the fourth industrial revolution, big data is one of the technologies that will define it.

It means that instead of the regular Auditor-General reports that tell us what has happened, they will shift to predicting the occurrence of public money theft and stopping it. It is what Kenyans need to have confidence that tax proposals will indeed benefit mwananchi.

Mr Rotich's desperate tax measures were largely dictated by gross inefficiency by government in resource utilisation.

It is why the President ordered for open tendering methods to minimise wasteful corruption. According to media reports, this country loses a third of its budget to corruption. In a budget of Sh3 trillion that means Sh1 trillion is lost.

The cabinet secretary should have told us how much he expects to raise by defending against corruption and through recovery of stolen assets. More needs to be done to improve efficiency in resource utilisation.

For a start, we need a quick policy on data similar to the European Union's General Data Protection Regulations (GDPRS) to enable the state to legally obtain data from banks, mobile money services and other agencies for analytics to seal revenue leaks from the government.

There is more revenue that the Treasury can raise from prudent use of data than taxing mama mbogas (vegetable vendors) where it will be expensive to collect any form of tax. They are the last mile of the food supply chain and taxing them will see the price of food unnecessarily skyrocket.

Inflation will also be pushed to the roof and eventually reduce consumer purchasing power.

While some economists may argue that this is one item in the basket of goods and services consumed by households, they need to know that food accounts for 45 per cent of the household income in the majority bottom of the pyramid. In the same basket will be kerosene, cooking oil, and transportation all of which were affected by tax increases.

FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA- Flowers-Rumuruti	Roses	Rumuruti	Shailesh	0722 203750	shailesh.rai@aaagrowers.co.ke
AAA- Flowers -Chui Farm	Roses	Timau	Shailesh	0722 203750	shailesh.rai@aaagrowers.co.ke
AAA Growers	Vegetables / Flowers	Nairobi			
AAA-Chestnut		Narumoru			
AAA-Growers		Nakuru			
AAA-Hippo	Vegetables	Thika	Vincet	0726999080	vincet@aaagrowers.co.ke
Acacia Farm-Sunripe		Naivasha	Antony	0711827785	naivasha@sunripe.co.ke
Africala	Cuttings	Eldoret	Meindert	-	meindert@africalla.com
Africa Blooms	Roses	Salagaa	Ravindra Chaudhari	0723159076	ravindra.chaudhari@xflora.net
Afriscan Kenya Ltd	Hypericum	Naivasha	Charles Mwangi	-	-
Alani Gardens	Roses	Nakuru	Judith Zuurbier	0722 364 943	alani@alani-gardens.com
Aquila Development Co	Roses	Naivasha	Abhay Marathe	0729776656	gm@aquilaflowers.com
Bamboo Farm-Sunripe		Nakuru	Reuben	0723920237	
Balaji Flowers	Roses	Olkalou	Erastus Simiyu	0711393248	erastus190@gmail.com
Baraka Farm	Roses	Ngorika	Lucy Yinda	-	lucy@barakaroses.com
Batian Flowers	Roses	Nanyuki	Dirk Looj	0720102237	dirk@batianflowers.com
Beautyline	Flowers	Naivasha	Peter Gathiaka	0722676925	peter@beautyli.com
Big Flowers	Roses	Timau	Simon Blinco	0723234927	simon@mauflora.co.ke
Bigot Flowers	Flowers	Naivasha	Kakasaheb Jagtap	0722205271	jagtap.kt@bigotflowers.co.ke
Bila Shaka Flowers	Roses	Naivasha	Joost Zuurbier	0722204489	bilashaka.flowers@zuurbier.com
Black Petals	Roses	Limuru	Nirzar Jundre	0722848560	nj@blackpetals.co.ke
Bliss Flora Ltd	Roses	Njoro	Appachu Sachin	0789101060	appachu7@yahoo.com
Blue Sky	Summer Flowers	Naivasha	Mike	0720005294	info@blueskykenya.com
Bloom Valley		Salgaa	Ramnath Sarbande	0780314387	ramnath.sarbande@xflora.net
Blooming Dale Roses Kenya Ltd	Flowers	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms	Roses	Nakuru	Shivaji Wagh	0720895911	shivaniket@yahoo.com
Carzan (K) Ltd	Summer flowers- Hypericum, Carnations	Salgaa	Mahesh		seb.chambers@carzankenya.com
Charm Flowers	Flowers	Athiriver	Ashok Patel	020 352583	ashki@charnflowers.com
Colour Crops	Hypericum	Nanyuki	Kennedy Wanyama	0716389472	colourcrops@tmu.com
Colour crops	Summer Flowers- Hypericum, Veronica	Bahati	Patrick Kipkurui	0727806184	kipkirui89@gmail.com
Colour crops Naivasha	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Credible Blooms	Flowers	Rumuruti	Eliud Njenga	0722382859	eliud@pigeonblooms.com
Credible Blooms	Flowers	Ngong	Eliud Njenga	0722382859	eliud@pigeonblooms.com
Dale Flora	Roses	Mogotio	Ajay Sutar	0711102266	ajay.sutar24@gmail.com
Delemere Pivot	Vegetables	Naivasha	Daniel Ondiek	0720395963	daniel.ondiek@vegpro-group.com
Desire Flowers	Flowers	Isinya	Rajat Chaohan	0724264653	rajatchaohan@hotmail.com
De ruiters	Breeder Roses	Naivasha	Fred Okinda	0722579204	Fred.okinda@deruiter.com
Double Dutch	Cuttings	Naivasha	James Opiyo	0723516172	Opiyojames160@gmail.com
Duro Farms	Hypericum	Naivasha	George Anguko	0725762099	george@durofarms.com
Dummen Orange	Flowers Breeders	Naivasha	Steve Outram	0733 609863	s.outram@dummenorange.com
Elbur flora	Roses	Nakuru	Daniel Moge	0721734104	kimmanexp@gmail.com
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Equinox	Flowers	Nanyuki	Harry Kruger	0707266956	harry@equinoxflowers.com
Everflora Ltd.	Flowers	Thika	Bipin Patel	0735873798	everflora@dmblgroup.com
Exotic Peninah	Roses/ Carnations	Athiriver	Dan	0734626942	dan@exoticfields.com
Fairy Flowers	Flowers	Limuru	Sylivester	0753444237	sylvesterkahoro@yahoo.com
Fides Kenya Ltd	Cuttings	Embu	Francis Mwangi	068-30776	francis.mwangi@dummenorange.com
Flamingo Holdings Farm	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@flamingo.net
Flamingo Holdings-Kingfisher Farm	Flowers	Naivasha	-		
Flamingo Holdings- Kingfisher Farm	Flowers	Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@flamingo.net
Flamingo Holdings-Siraji Farm	Carnations, Roses	Nanyuki	-	-	-
Finlays -Tarakwet	Flowers	Kericho	Lelon Chepkwony		
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	Japheth Langat	0722 863527	japheth.langat@finlays.co.ke
Flamingo Flora	Roses	Njoro	Sam Nyoro	0721993857	s.ivor@flamingoflora.co.ke
Flora ola	Roses	Solai-Nakuru	Lucas Choi	0721832710	lucas.floraola@gmail.com
Flora Delight	Summer flowers	Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com

FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke
Florenza Flowers	Roses	Solai	Yogesh	0737453768	farm.florenza@megaspingroup.com
Fontana Ltd-Salgaa	Roses	Salgaa	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd - Akina farm	Roses	Njoro	Mahindra Patil	0798254199	--
Fontana Ltd - Ayana Farm	Roses	Mau Narok	Gideon Maina	0721 178974	gideon@fontana.co.ke
Fox Ton Agri		Naivasha	Jim Fox	0722204816	jim@foxtonagri.com
Frigoken K Ltd	Vegetables	Nairobi			
Gatoka Roses	Roses	Thika	Robert Mutembei	0720639392	info@gatokaflowers.com
Gladioli Ltd		Naivasha	Pieriguichi / Claudia	0722206939	torres.palau@yahoo.com
Golden Tulip	Roses	Olkalao	Umesh Choudhery	0739729658	umesh@bth.co.ke
Gorge Farm	Roses	Naivasha	Patrick Mulumu	0722498267	pmulumu@vegpro-group.com
Groove	Flowers	Naivasha	John Ngoni	0724448601	grovekenya@gmail.com
Harvest / Manjo Plants	Roses	Olkalao	Paul Salim	-	-
Harvest Ltd	Roses	Athiriver	Julius Oloo	0721465853	julius@harvestflowers.com
Highland plantations	Cuttings & Herbs	Olkalau			production@highlandplants.co.ke
Imani Flowers	Summer Flowers	Nakuru	Raphael Otieno	0792302466	raphael@imaniflowers.co.ke
Indu Farm	Vegetables	Naivasha	Wesley Koech	0715546908	
Indu -Olerai Farm		Nakuru	Everline Debonga	0723383160	everlyne.adhiambo@indu-farm.com
Interplant Roses	Roses	Naivasha	Gavin Mourittzen	0733220333	info@interplantea.co.ke
Isinya	Flowers	Isinya	Rajesh	-	pm@isinyaroses.com
Jatflora		Naivasha	James Oketch	0724418541	jatflora@gmail.com
Jesse AGA		Mweiga	Thuranira	0754444630	davidt@eaga.co.ke
Karen Roses	Flowers	Nairobi	Peter Mutinda	0723353414	pmutinda@karenroses.com
Kariki Ltd.	Flowers	Thika	Samwel Kamau	0723721748	production@kariki.co.ke
Kariki Ltd - Nanyuki	Eryngiums	Nanyuki	Richard Fernandes	062-31023/6	bondet.production@karik.biz
Kariki Ltd - Hamwe	Hypericum	Naivasha	Peter Kamwaro	0721758644	hamwe.fm@kariki.biz
Kariki Ltd - Hamwe- Molo	Fowers	Molo	Joseph Juma	0725643942	production.fm@kudenga.co.ke
Twiga Flowers	Flowers	Naivasha	-	-	-
Kenflora Limited		Kiambu/ Limuru	Abdul Aleem	0722311468	info@kenfloraa.com
Kentalya	Cuttings	Naivasha	Linnet	0733549773	lynette@kentalya.com
KHE		Nanyuki	Elijah Mutiso	0722254757	mutiso@khekenya.com
Kisima Farm	Roses	Timau	Martin Dyer	0722593911	martin@kisima.co.ke
Kongoni River Farm - Gorge Farm	Roses	Naivasha	Anand Patil	0728608785	anand.patil@vegpro-group.com
Kongoni River Farm - Liki River	Flowers	Nanyuki	Madhav Lengare	0722202342	madhav@vegpro-group.com
Kongoni River Farm - Star Flowers	Flowers	Naivasha	Dinkar	0789487429	dinkar@vegpro-group.com
Kongoni River Farm - Kongoni	Flowers	Timau	Oppaso Bandgar	07120070053	oppasobandgar@vegpro-group.com
Kongoni River Farm -Bemack	Flowers	Timau	Rakesh Kuttaiah	0724631299	rakesh.kuttaiah@vegpro-group.com
Korongo Farm		Naivasha	Macharia	0721387216	
Kreative	Roses	Naivasha			
Lamorna Ltd	Roses	Naivasha	Mureithi	0722238474	admin@lamornaflowers.com
Lathyflora		Limuru	Mbauni John	0721798710	mbaunij@yahoo.com
Lauren International	Flowers	Thika	Chris Ogutu/Carlos	0722783598	laurenflowers@accesskenya.co.ke
Laurel Investment	Roses	Nakuru	Rajendra Jadhav	0738359459	rajendra.laurel@bht.co.ke
Livewire	Hypericum	Naivasha	Esau Onyango	0728606878	management@livewire.co.ke
Lobelia Ltd/ Sunland	Roses	Timau	Peter Viljoen	0721632877	info@lobelia.co.ke
Lolomarik	Roses	Nanyuki	Topper Murry	0715 727991	topper@lolomarik.com
Loldia Farm		Naivasha	Gary/Rotich	0720651363	
Longonot Horticulture		Naivasha	Chandu	0724639898	chandrakant.bache@vegpro-group.com
Longonot Horticulture		Naivasha	Patrick Mulumu	0722498267	patrick.mulumu@vegpro-group.com
Magana	Roses	Nairobi	John Ngugi	0725307509	productionmanager@maganaflowers.com
Mahee Flowers	Roses	Olkalao	Rao Venkatesh	0705401431	maheefm@eaga.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflowers.com
Maua Agritech	Flowers	Isinya	Madan Chavan	0738669799	production@mauaagritech.com
Mau Flora	Roses	Molo	Mahesh	0787765684	mahesh@mauflora.co.ke
Milmet/Tindress Farms	Flowers	Solai	Pravin		pravinyadav.29@gmail.com
Molo Greens	Summer Flowers	Molo	Justus Metho	0722 755396	justus@mologreens.com
Mt. Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395,	bob@mtelgon.com

FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Mwanzi Flowers Ltd	Roses	Rumuruti	Ram	0722265845	-
Mweiga Blooms	Flowers	Nanyuki	Stewart/ Mburu	0721674355	mweigablooms@wananchi.com
Mzuurie Flowers - Maji Mazuri	Roses	Eldoret	Mark Juma	0727471034	mjuma@majimazuri.co.ke
Mzuurie Flowers - Molo River Roses	Flowers	Kilelwa	Andrew Wambua	0724256592	awambua@moloriverroses.co.ke
Mzuurie Flowers - Winchester Farm	Roses	Karen	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Mzuurie Flowers - Winchester Farm	Flowers	Bahati	Raphael Mulinge	0725848909	rmulinge@winchester.co.ke
Nini Farms	Roses	Naivasha	Philip Kuria	0720611623	production@niniltd.com
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
Ol Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Oserian	Flowers	Naivasha	Musyoka Stephen	0722888377	stephen.musyoka@oserian.com
Panda Flowers	Roses	Naivasha			
Panocol International	Roses	Eldoret	Mr. Paul Wekesa	0722748298	paul.wekesa@panocal.co.ke
Penta	Flowers	Thika	Tom Ochieng	0723904006	tom@pentaflowers.co.ke
Pendekeza	Roses	Nanyuki	Richard Siele	0722716158	tambuzi.sales@tambuzi.co.ke
Pj Dave	Flowers	Isinya	Simiyu	0723500049	pjdavetimau@pjdaveepz.com
Pj Flora	Flowers	Isinya	Palani Muthiah	0752607651	muthiah.palani1971@gmail.com
Pj Flowers Ltd	Roses	Isinya	Sanjiv	0737576966	sanjiv@pjdave.com
Plantation Plants	Cuttings	Naivasha	William Momanyi	050 20 20282	pplants@kenyaweb.com
Plantech Kenya Ltd	Propagators - Herbs, Roses & Vegetables	Naivasha	Idan Salvy	0702187105	idan@plantechkenya.com
Porini Flowers	Roses	Molo	Vivek Sharma	0731040498	gm@poriniflowers.com
PP Flora	Roses	Nakuru	Prakash	0718045200	ppflora2010@gmail.com
Primarosa Flowers Ltd	Roses	Olnjororok	Shantaram	0701464049	production.p2@primarosaflowers.com
Racemes Ltd		Naivasha	Bonny	0721938109	bonny@kenyaweb.com
Rain Forest Farmlands Ltd	Roses	Naivasha	Benard Omwansa	0722912943	bomwansa@fleurafrica.com
Ravine Roses Flowers	Flowers	Nakuru	Peter Kamuren	0722205657	pkamuren@karenroses.com
Redland Roses		Thika	Aldric Spindler	0733603572	aldric@redlandsroses.co.ke
Redwing Flowers	Flowers	Nakuru	Simon Sayer	0722227278	sayer@redwingltd.co.ke
Rift Valley Roses (K) Ltd	Flowers	Naivasha	Peterson Muchuri	0716589898	fm@riftvalleyroses.co.ke
Rimiflora Ltd	Hypericum	Njoro	Richard Mutua	0722357678	richard@rimiflora.com
Riverdale Blooms Ltd		Thika	Antony Mutugi	0202095901	rdale@swiftkenya.com
Roseto	Roses	Roseto	Arvind	0734848560	gm.roseto@megaspingroup.com
Rozzika Gardens –Kamuta Farm		Naivasha	Mbuthia	0721849045	jwachiram@yahoo.com
Savannah international	Geranium	Naivasha	Ignatius lukulu	0728424902	i.lukulu@savanna-international.com
Selecta Kenya		Thika	Alnoch Ludwig	0738572456	l.allnoch@selectakenya.com
Sojanmi Spring Fields	Roses	Njoro	Ashesh Mishra	0792217088	ashesh@xflora.net
Schreus	Roses	Naivasha	Haiko Backer	-	-
Shades Horticulture	Flowers	Isinya	Mishra	0722972018	info@shadeshorticulture.com
Shalimar Flowers	Flowers	Naivasha	Anabarasan	0733604890	anbarasan@eaga.co.ke
Sian Roses - Maasai Flowers	Flowers	Isinya	Andrew Tubei	0722728364	atubei@sianroses.co.ke
Sian Roses - Agriflora (K) Ltd	Roses	Nakuru	Clement Ngetich	0723159619	cngetich@sianroses.co.ke
Sian Roses - Equator Roses	Roses	Nakuru	Nehemiah Kangogo	0725848910	nkangogo@sianroses.co.ke
Sian Roses - Equator Flowers	Roses	Eldoret	Charles Mulemba	0721311279	cmulemba@sianroses.co.ke
Sierra flora	Roses	Njoro	Sharieff	0787243952	farm.sierra@megaspingroup.com
Simbi Roses	Roses	Thika	Karue Jefferson	067 44292	simbi@sansora.co.ke
Sirgoek Flowers	Flowers	Eldoret	Andrew Keittany	0725 946429	sirgoek@africaonline.co.ke
Solai Milmet/Tindress	Flowers	Nakuru	Vinoj J. Kumar	0737801646	solairoses@gmail.com
Subati Flowers	Roses	Subukia	Naren Patel	0712 584124	naren@subatiflowers.com
Subati Flowers	Roses	Naivasha	Naren Patel	0712 584124	naren@subatiflowers.com
Suera Flowers Ltd	Roses	Nyahururu	George Kimathi	0724622638	gkbuuri@gmail.com
Sunland Timau Flair	Roses	Timau	Peter Viljoen	0723383736	info@lobelia.co.ke
Stockman rozen	Roses	Naivasha	Julius muchiri	0708220408	julius@srk.co.ke
Syngenta Flowers - Kenya Cuttings	Flowers	Ruiru	James Ouma	0725217284	john.odhiambo@syngenta.com
Syngenta Flowers - Kenya Cuttings	Flowers	Thika	Kavosi Philip	0721225540	philip.munyoki@syngenta.com
Syngenta Flowers - Pollen	Flowers	Thika	Joseph Ayieko	0733552500	joseph.ayieko@syngenta.com
Tambuzi	Roses	Nanyuki	Richard Siele	0722716158	tambuzi.sales@tambuzi.co.ke
Timaflor Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflor.com
Transebel		Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke
Tropiflora		Kiambu/Limuru	Niraj		tropiflora@africaonline.co.ke

FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Tulaga Flowers	Roses	Naivasha	Steve Alai	0722659280	tulagaflower@africaonline.co.ke
Tulaga Flowers	Roses	Rumuruti	Gideon Kariuki	0701153844	tulagamarmanet@africaonline.co.ke
Tk Farm		Nakuru	Gichuki	0721499043	davidgichuki20@yahoo.com
Uhuru Flowers	Flowers	Nanyuki	Ivan Freeman	0713889574	ivan@uhuruflowers.co.ke
United Selections	Roses -Breeder	Nakuru	Jeroen Van Marrewijk	0700176556	jvanmarrewijk@united-selections.com
V.D.Berg Roses	Flowers	Naivasha	Johan Remeeus	0721868312	johan@roseskenya.com
Valentine Ltd		Kiambu/Limuru	Maera Simon	0721583501	simon.maera@valentinegrowers.com
Van Kleef Ltd	Roses	Njoro	Rathan	0787266007	rathan@vankleef.nl
Vegpro K Ltd Vegetables		Nanyuki	John Kirunja	0729555499	john.kirunja@vegpro-group.com
Vegpro K Ltd	Vegetables	Nairobi	Judy Matheka	0721245173	jmatheka@vegpro-group.com
Vegpro K Ltd	Vegetables	Nanyuki	John Nduru	0722202341	jnduru@vegpro-group.com
WAC International	Breeder	Naivasha	Richard Mc Gonnell	0722810968	richard@wac-international.com
Waridi Ltd		Athiriver	P. D.Kadlag	0724-407889	kadlag@waridifarm.com
Wildfire	Roses/summer	Naivasha	Eliud Kimani	0727598349	roses@wildfire-flowers.com
Wilfay Flowers	Gypsophila/hypericum	Subukia	Makori	0723358644	makoriwilfay@gmail.com
Wilmar Agro Ltd	Summer Flowers	Thika	Alice Muiruri	0722 321203	alice.muiruri@wilmar.co.ke
Windsor		Thika	Vikash	073705070	vikash@windsor-flowers.com
Xpressions Flora	Roses	Njoro	Brijesh Patel	0715469732	brijesh.patel@xflora.net
Zena -Thika Farm	Roses	Thika	Vincent	-	sales@zenaroses.co.ke
Zena - Asai Farm	Roses	Eldoret	Phanuel Ochunga	0722506026	pochunga@zenaroses.com
Zena Roses - Sosiani Farm	Roses	Eldoret	Phanuel Ochunga	0722506026	pochunga@zenaroses.com

FLOWER FARMS IN UGANDA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Rosebud	Ravi Kumar	Wakiso	0752 711 781	ravi.kumar@rosebudlimited.com
Roses	Maiye Estates	Premal	Kikwenda wakiso		premal@maiye.co.ug
Roses	Jambo flowers	Patrick Mutoro	Nakawuka Sisia Wakiso	(254) 726549791	pmutoro80@yahoo.co.uk
Roses	Pearl Flowers	Raghbir Sandhu	Ntemagalo Wakiso	0772 72 55 67	pearl@utlonline.co.ug
Roses	Aurum flowers	Kunal Lodhia Shiva	Bulega, Katabi Wakiso	0752 733 578	kunal@ucil.biz
Roses	Eruma roses	Kazibwe Lawrence	Mukono	0776 049987	kazibwe@erumaroses.com
Roses	Uga rose	Grace Mugisha	Katabi Wakiso	0772 452 425	ugarose@infocom.co.ug
Roses	Kajjansi	K.K rai	Kitende Wakiso	0752 722 128	kkrai@kajjansi-roses.com
Roses	Uganda Hortech	M.D hedge	Lugazi Mukono	0703 666 301	mdhedge@mehtagroup.com
Chrysanthemums	Fiduga	Jacques Schrier	Kiringente , Mpingi	0772 765 555	j.scherier@fiduga.com
Chrysanthemums	Royal Van Zanten	Jabber Abdul	Namaiba Mukono	0759 330 350	j.Abdul@royalvanzanten.com
Impatiens, poinsetia	Wagagai	Olav Boenders	Iwaka Bufulu Wakiso	0712 727377	olav@wagagai.com
Chrysanthemums	xclussive cuttings	Peter Benders	Gayaza- Zirobwe rd	0757 777 700	pbenders@xclussiveuganda.com

FLOWER FARMS IN TANZANIA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Kili flora	Jerome Bruins	Arusha	255 27-25536 33	jbruins@habari.co.tz
Roses	Mt. Meru	Tretter	Arusha	255 27 2553385	office@mtmount-meru-flowers.com
Roses	Tengeru Flowers	Tretter	Arusha	255 27 255 3834	teflo@africaonline.co.tz
Crysenthemums	Multi flower Ltd	Tjerk Scheltema	Arusha	255 27 250 1990	tjerk@arushacutting.com
Crysenthemums	Dekker Bruins	Lucas Gerit	Arusha	255 27 255 3138	info@tfl.co.tz
Crysenthemums	Arusha cuttings	Tjerk Scheltema	Arusha	255 27 250 1990	tjerk@arushacutting.com

FLOWER FARMS IN ETHIOPIA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Cuttings	Abssinia flowers	Toon Van Kessel	Legedadi	+251 116653911	tvankessel@yahoo.com
Roses	Addisfloracom PLC	Kitema Mihret	Holeta	+251 912 264190	tasfaw@addisflora.com
Folwers	Afriflowers PLC	Mauricio Castillo	Holeta	+251 937977849	topigs@grepodelago.com
Fruits & Vegetables	Africa Juice Tibila S.C	Abayeneh Essayas	Adama	+251 221191203	info@africajuice.com
Roses	Agriflora		Holeta	+251 922 397760	flowers@ethionet.et
Roses	Alliance Flowers PLC	Navale	Holeta	+251 116184341	navele@nehainternational.com
Roses	Arsi Agricultural Mecahanization		Holeta		arsiflower@ethionet.et
Cut Flowers	Assela Flowers Farm PLC	Friedrich Wilheilm	Wolliso	+251 911431417	info@asellaflowers.com
Roses	AQ Roses PLC	Frank Ammerlaan	Ziway	+251 464414277	frank@aqroses.com
Cut Flowers	Beti Ornamentals	Henock Zerihun	Debre Zeit	+251 116521211	betiornamentaldz@gmail.com
Roses	Bukito Flowers	Anteneh Tesfaye	Debra Zyeit	+251 911 615571	
Roses	Braam Flowers PLC	Ben Braam	Ziway	+251 464413137	braam.roses@gmail.com
Cuttings	Desa Plants PLC	Ben Depraeter	Mojo-Ejersa	+251 116569195	ben@desaplants.com
Roses	Dire Highlands Flowers PLC	Seifu Bedada	Holeta	+251 113870308	dhf@ethionet.et
Roses	Dire flowers 2	Abenet Fiktu	Sebata	+251 911 149 329	abifiktu@yahoo.com
Roses	Dugda Floriculture Dev't PLC	Adugna Bekele	Debre Zeit	+251 4336142/43	general@dugdaflora.com
Roses	Ethio dream PLC	Jan Prins	Holeta	+251 11 2372334/35	ethiodream@ethionet.et
Roses	Ethio Agri- CEFT	Asfaw Kejela	Welmera	+251 112372415/18	ethioagriceft@ethionet.et
Roses	Enyi Ethio Roses	Endale Yirga	Kara Kore Sebeta	+251 113482143	enyi@ethionet.et
Roses	Eden Roses	Vaibhav Aggarwal	Sebata	+251 8959343	vaibhav@edenroses.com
Roses	Ethio passion Agro PLC/Oda Flowers	Roshan Muthappa	Sebeta	+251 111561572/73	ethiopassion@ethiopassion.com
Roses	ET Highland Flora PLC	Tsegaye Abebe	Sebeta	+251 113383710	bnf2etf@ethionet.et
Roses	Euro Flora PLC	Shiranda Pia	Holeta	+251 118602075	euroflora@gmail.com
Roses	Evergreen Farm	Hiwot	Debra zyeit	+251 912 18 5065	Hiwot.Ayaneh@yahoo.com
Hydragiums	Ewf Flowers	Humphrey	Sebata	+251 920 35 1931	production-manager@Ewf-flowers.com
Cuttings	Ethiopia Cuttings PLC	Sunil Hemdev	Koka	+251 224590151-55	akalu.ermias@syngenta.com
Cuttings	Ethipia Magical Farm	Daniel Bentora	Sendafa	+251 118606534	emf@ethionet.et
Summer Flowers	Freesia Ethiopia PLC	Ronald Vijverberg	Sebata	+251 118101018	freesia@ethionet.et
Roses	Friendship Flowers	A. Tsegaselassie	Debre zeit	+251 91 130 49 67	friendship.flowers@yahoo.com
Roses	Flowerama PLC	Srinivasan Mini	Holeta	+251 112849349	floweramaa@hotmail.com
Cuttings	Florensis Ethiopia PLC	Ronald Vijverberg	Koka	+251 116525556/57	florensis@ethionet.et
Roses	Gallica Flowers PLC	Stephane Mottier	Menagesha	+251 112849368	gallicaethionet.et
Roses	Golden Rose Agro Farm Ltd	Ryaz Shamji	Sebata	+251 113520282/84	goma@ethionet.et
Roses	Herburg Roses PLC	Huub Van Der Burg	Ziway	+251 464414281/79	huu@herburgroses.nl
Roses & Veges	JJ Kothari PLC	Jay Prakash Kothari	Sululta	+251 111860021	j.jkothari@gmail.com
Fruits & Veges	Jittu Horticulture PLC	Jan Prins	Tikurwuha	+251 116189313/14	info@jittuhorticulture.com
Roses	Joe Flowers PLC	Wondirad Firdu	Holeta	+251 112372016	joeflowersplc@gmail.com
Roses, veges, herbs	Joytech PLC	Jagdish Eknath	Debre Zeit	+251 122370877	jagdish@joytechplc.com
Cut Flowers	Karuturi Farm/Ethiopia meadows	Anil Tumu	Holeta	+251 11 6632437/39	eth.meadows@gemail.com
Roses	KAF Flowers	Baker Elkadi	Holeta	+251 913 202 460	baker-elkadi@yahoo.com
Cut Flowers	Klaver Flowers PLC	Danny Koppes	Hawassa	+251 110916581769	klaverflowers@gmail.com
Roses	Lafto Roses PLC	Gerard van der Deiji	Sebeta	+251 115541485/83	pm@laftoroses.com
Roses	Linssen Rose	Peter Linssen	Addis Alem	+251 11 3205668	linssenroseset@ethionet.et
Fruits, Veges	Luna Fruits PLC	Tesfalidet Hagos	Koka	+251 116627894	lunaexport@ethionet.et
Cut Flowers	Maranque Plants PLC	Marc Driessen	Merti	+251 22 1190750	md@maranqueplants.com
Veges, sum. flowers	Marginpar Ethiopia PLC	Andrians Vanrol	Holeta	+251 116547005	marginpar@ethionet.et
Roses	Metrolux Flowers	Akiko Siyum	Holeta	+251 114669273	export.mtx@ethionet.et
Roses	Minaye Flowers PLC	Yidnekachew Ayele	Debre Zeit	+251 113728666/67	minaye@ethionet.et
Summer Flowers	Mullo Farm PLC/ Derba PLC	William Koerts	Chancho	+251 116553910	office@derbaflowers.com
Roses	Oromia Wonders	Navale Kodaje	Holeta	+251 112372378	mekdesoromia@gmail.com

2018

NAIVASHA HORTICULTURAL FAIR

Conference | Exhibition | Buyer-Seller Meet

Africa Largest Horticultural Fair

21st -22nd Sept,

Venue: Naivasha Sports Club

+254 726 629 666
+254 721 118 659

Nation Media Group | Seeds of Gold | Agricheq Africa Ltd – Your Partner in Agriculture | Greenlife Crop Protection Africa

nhfair@naivashahortifair.com
www.naivashahortifair.com

Amiran

Our Knowledge, Your Success.

AMARILIO

Sprayable adhesive product to prepare sticky sheets for trapping flying insects

Easy to apply:

Amarilio can be applied by spraying, brushing or scrolling on polyethylene sheets, or any other smooth surface.
Easy to apply on large surface.

Excellent coverage:

Amarilio designed to cover large surface, thereby producing a mass trapping area.
Ideal for use in IPM programs.

Duration of the activity:

Amarilio is effective in greenhouse conditions for a period of 2-4 months.
Amarilio stays sticky for a long period of time, with high rainfastness.

Easy to renew:

The sticky surface can be renewed by applying another layer on the previous layer, at any time.

Non-toxic:

Amarilio is a water based product and does not contain organic solvents or pesticides.

After one week of application

Available in yellow and blue

Amiran

Amiran Kenya Ltd
Old Airport North Rd - Embakasi
P.O. Box 30327-00100, Nairobi
Tel: 0719 095 000
Email: green@amirankenya.com

Call us on our toll free number
0800 720720

Join AmiranK on Facebook
@amiran_kenya
www.amirankenya.com