

MARCH-APRIL 2019

THE LEADING FLORICULTURAL JOURNAL IN THE REGION

FLORICULTURE

Kshs. 350

Tshs. 3,500

S.A. Rands 35

USD 6

CHEQURED BLOOM.

ROSE GROWERS REFLECT ON VALENTINE'S DAY.

*"If I had a single flower for every time
I think about you, I could walk forever
in my garden."*

Regards
Claudia Adrienne Grandi





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



SIVANTO[®]
prime

Growing in Unison

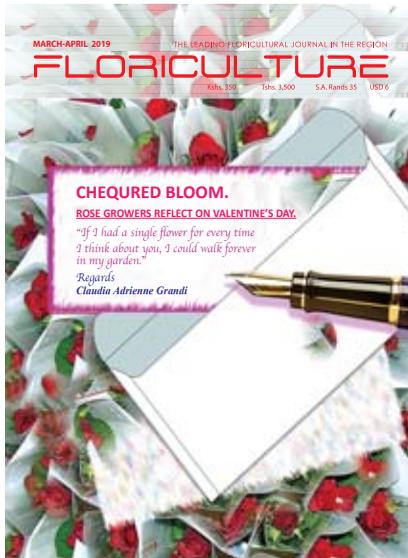
Integrated Crop Protection with SIVANTO[®] prime

- ▶ 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





Inside

- 6. **Brexit**
- 10. **Sustainable Joy**
- 14. **Chequered Bloom**
- 20. **Battle of Blooms**
- 24. **Thrips are Hitting Growers**
- 26. **Export Vegetables**
- 34. **Seasonal but Dangerous**
- 42. **Christine Karambu**
- 48. **Sivanto Prime Launched**
- 44. **Nitrogen Switch Boosts Ornamentals**

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**.

All rights reserved. Reproduction in whole or in part without written permission of the publishers is strictly prohibited. **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.



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 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



My Advertiser, My reader, My Love

My Advertiser, we have been seeing each other for a long time now but I have never been able to express my love to you. This time, I am writing this editorial to firmly express my heart out in front of you. I want to say that you are the driving force of my business who keeps me sane when I am agitated at times. You are the magician who knows the ways of calming me down when business is tough. Your charms are beguiling and it is because of them that I have kept loving you even a thousand folds more. I have started adoring you more and more each day. I want our relationship to flourish this way forever and ever. And I am going to keep loving you more each and every day.

My reader; we both know we have a very special relationship - Without ever needing to say so — how in love we are. But now I want to say you are very precious to me. I love to be close to you. You are more beautiful than sunshine, more precious than gold. You are sweeter than candy and more lovely than the moon. You are exquisite and delightful, special and unique. And what's most astounding of all, you want to be with me.

I remember the first time I started writing to you. It was one of the best moments of my life. I couldn't understand why you were so special to me. But the time we have spent together has been so enchanting that each moment without writing to you I feel like a punishment



to me. I only know how difficult it is for me to restrain myself from rushing to you as you concentrate on your work. Sometimes when I can't bear your absence, I call you up. And somewhere along the way, we have cleared without even realizing it. We have slowly developed a deep love, and eventually we both know it. It is so beautiful a feeling.

I am madly in love with you, my reader, my advertiser, my love.

Masila Kanyingi



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

Editor

Masila Kanyingi

Sub-Editor

Alex Gitonga

Editorial Assistant

Cornelius Mueke

Contributors

Adrian Bell

David Nulandi

Winrose Maria

Chrysal Africa Ltd

HFA

AIPH

Logistics Update

Photographers

Jairus Ndani

Graphic Designer

Evelyne Ndiema

Marketing

Florinews Ltd

Editorial Consultants

Tom Ochieng : Penta Flowers

Victor Juma : Syngenta EA Ltd

Doris Kawira : Corteva

Charles Njuki : AAA Flowers

Patrick Ngugi : BASF

Daniel Kisongwo : Consultant

Innocent Arunda : Arysta LifeScience

Maurice Koome : Bayer Cropscience

CUTTER 112 EC™

INSECTICIDE

Acetamiprid 64 g/l + Emamectin benzoate 48 g/l

FOR EFFECTIVE CONTROL OF THRIPS, WHITEFLY, APHID, LEAFMINER AND CATERPILLAR

Stress-free grower
Healthier and cleaner crops!



Why Cutter 112 EC?

Rapid Results - faster action due to its dual mode of action .

Reliable - broad spectrum with a long residual control of up to 14 days.

Safety - low use rates safer for the environment .

Distributed by:



Our Knowledge, Your Success.

 **Arysta**
LifeScience
OpenAg

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 | WEB: www.arystalifescience.co.ke

Arysta LifeScience is now part of UPL,
creating a new leader in global agriculture



Brexit: Will it affect the Kenyan flower trade?

As Britain prepares to leave the European Union, workers in Kenya's flower industry are closely monitoring developments. Flowers are big business in Kenya and earnings from exports have doubled in the past five years. A key export destination is the UK, which most of the flowers enter after being auctioned in the Netherlands. Growers and exporters in Kenya are asking the same question - what impact will Brexit have on the flower trade?

What is the current situation?

Kenyan flower exporters currently enjoy zero tariffs on cut flowers sold to the EU. This is set by an interim arrangement, which Kenya secured through signing and ratifying the Economic Partnership Agreement between the EU and the East African Community.

The deal is temporary until the three other members in the regional group sign up so it can come into full effect.

Why does the UK flower trade matter to Kenya?

Britain is the second largest export destination for Kenya's cut flowers after the Netherlands, taking almost 18% of the flowers produced in the country.

The industry accounts for about 1.06% to Kenya's gross domestic product (GDP) - the total value of all the goods and services produced - according to the Flower Council. It is also one of the largest employers in the country, providing jobs to more than 100,000 people directly and an estimated two million indirectly.

And although Britain remains a major trading partner for Kenya, overall trade between the two countries has been falling over the past few years.

Why worry about Brexit?

Kenya Flower Council chief executive Clement Tulezi said the infrastructure for handling flowers flown directly to the UK was not well developed, which left Amsterdam and Liege, in Belgium, as the most important entry points for flowers into Europe,

So, Kenyan flower-sellers are hoping the UK signs a deal with the EU before officially leaving on 29 March. The deal proposed by the UK government would trigger a transition period that extends until 2020. And during the transition period, Kenya would continue accessing the UK market as it does now while a future trade deal was negotiated. This is what the Kenyan government is banking on.

Kenya's principal secretary in charge of trade, Chris Kiptoo, says: "We have all along got that assurance of no market disruption because of the fact that there will be an interim period up to 2020 December in which the UK will be operating under the EU law.

"Without a deal, it will not be just us, it will be everybody who has been trading with the UK. Everybody must find a way of trading with them."

A UK government official said: "The EU has temporary trade arrangements for Kenya and we intend to maintain the same level of access to retain Kenya's duty-free, quota-free access to the UK market."

During her visit to Kenya last year, Prime Minister Theresa May also said it would continue enjoying access to UK markets through the current duty free arrangement even after Brexit, before a new framework of trade is in place.

"Once we are outside the EU, we will have the opportunity to negotiate these trade deals on behalf of the UK rather than as part of the EU," she added.

What about a no-deal Brexit?

Despite these assurances, there are concerns inside Kenya about what happens if the UK leaves without a deal.

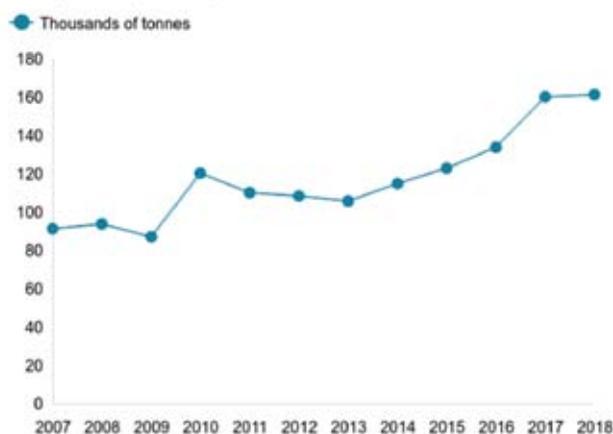
The British government says it wants to replicate all the existing trade deals the EU has, with more than 70 countries, which the UK would lose in the event of leaving without a deal.

But in Africa, the UK government had by 21 February signed continuity deals only with member countries of the Eastern and Southern Africa (ESA) region, which covers Madagascar, Mauritius, Seychelles and Zimbabwe.

Without a trade deal in place for Kenya, the UK would have to set tariffs according to rules set by the World Trade Organization (WTO).

And Traidcraft Exchange and the Fairtrade Foundation say Kenya could face WTO tariffs of 8.5-12%, costing its flower exporters up to £3.6m annually.

Kenya is exporting more cut flowers



Source: Kenya National Bureau of Statistics & Horticultural Crops Directorate

Main Story

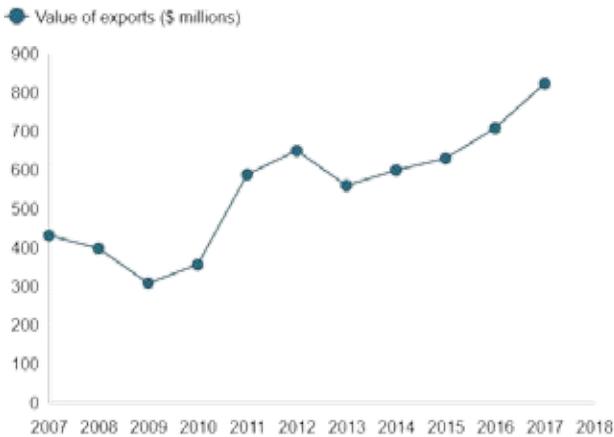


This, say the charities in a joint report, “would undermine competitiveness in an already stressed supply chain” and would greatly affect revenue and workers’ livelihoods.

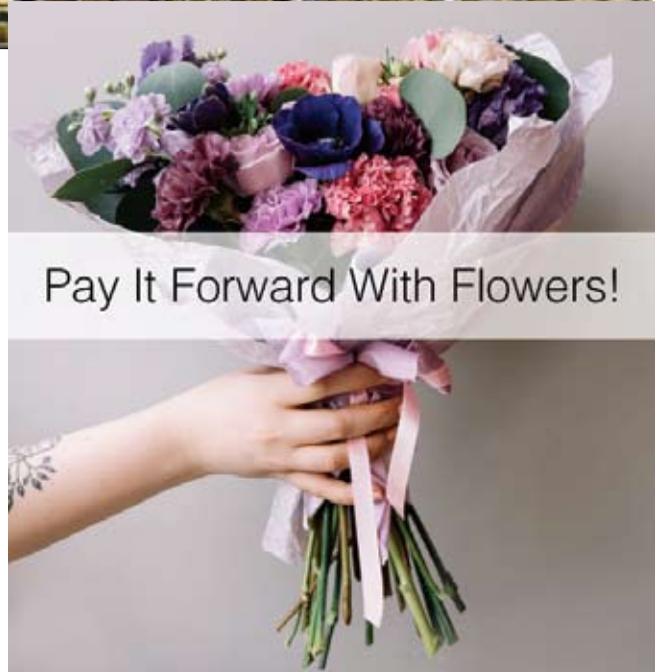
There are also concerns over potential customs delays between the EU and UK for a product with critical delivery schedules.

Kenyan-based development economist Anzette Were said a no-deal Brexit could see traders having to establish new distribution channels or use agents to sell the flowers in the UK.

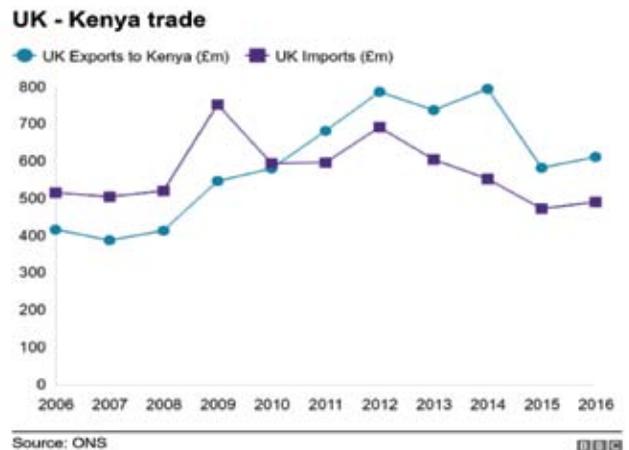
How much is Kenya earning from selling flowers?

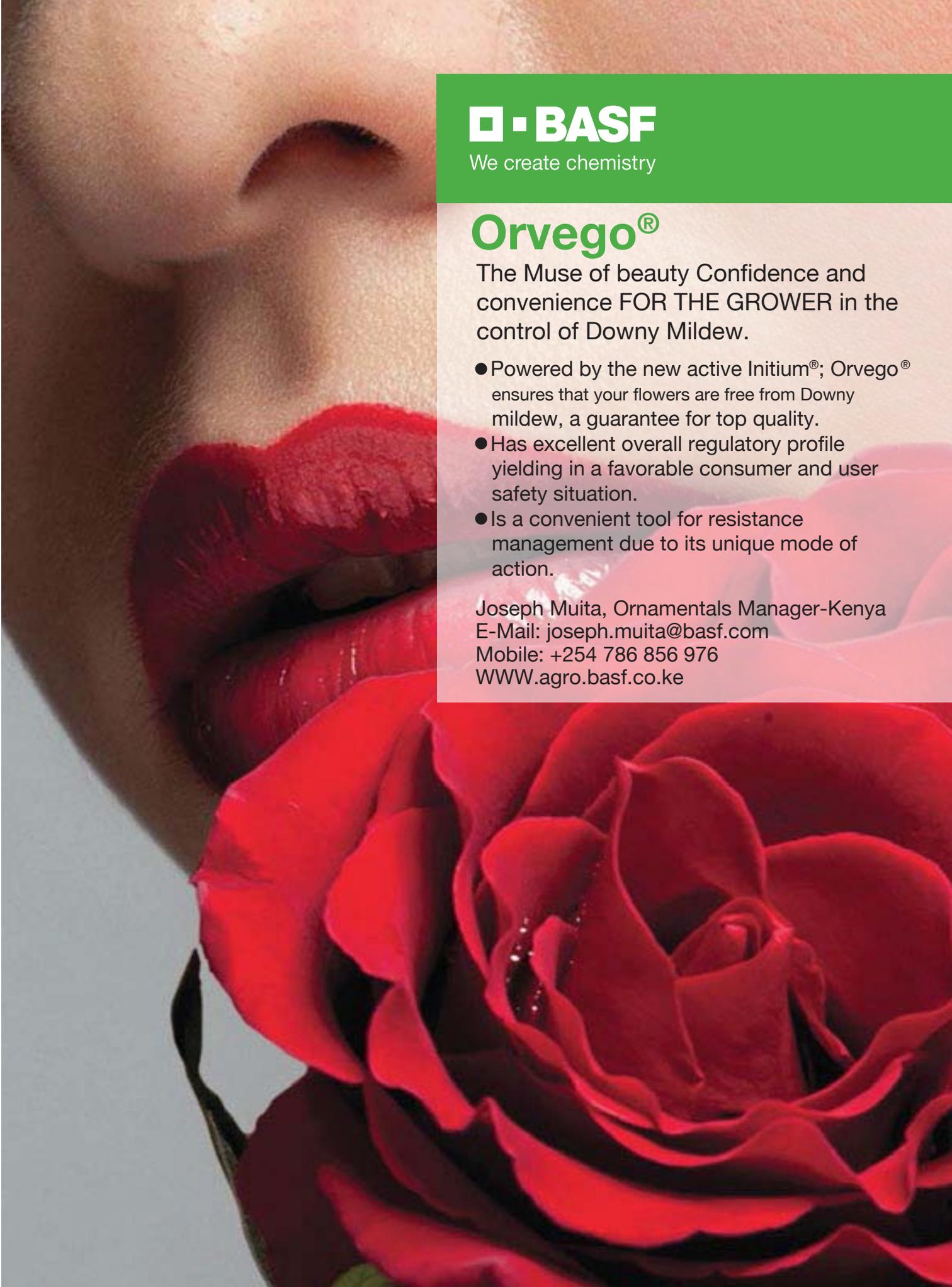


“It will be work and money that they will have to spend figuring out how to reconfigure those supply chains that used to work seamlessly when everybody was united in one common market,” she said.



Pay It Forward With Flowers!



A close-up photograph of a woman's face, focusing on her eyes and lips. She has red lipstick on. In the foreground, a large, vibrant red rose is in focus, partially overlapping the bottom of her face. The background is a soft, out-of-focus light color.

■ BASF

We create chemistry

Orvego®

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

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

Joseph Muita, Ornamentals Manager-Kenya
E-Mail: joseph.muita@basf.com
Mobile: +254 786 856 976
WWW.agro.basf.co.ke

“Sustainable Joy Through Certified Flowers”

Luckily, consumers are starting to request more information on where and how their flowers were grown and who grew them. Most of the Kenyan growers welcome this paradigm shift.

Kenyan growers encourage transparency not only in their business, but in the entire floral industry. “We aim to be stewards of the earth and work in harmony with nature to create amazing cut flowers that are safe for farmers to grow, and promote healthy soil”, says Andrew Wambua as he prepared for 2019 Valentine.

So, how do we highlight to our customers that we are a sustainable farm dedicated to the economic, social, and environmental well-being of our land, our flowers, our team members, and our community?

The way that makes the most sense for the growers, has been to obtain certification to Sustainable Agriculture Standard. This trusted certification quickly signals to consumers that our flowers were grown in a responsible, ethical and sustainable manner.

People walking through a supermarket floral department see amazing colours and textures and experience a whirlwind of scents. You only have a few seconds to get your message across to a consumer, to help guide them to your product. The highly recognizable KFC green seal has been an essential part of most Kenyan growers marketing.

Differentiating yourself in a crowded



market place is essential. We choose to differentiate ourselves by the way we farm. This has always been the way we've done things. While conventional flower cultivation often comes at the expense of healthy ecosystems, the Kenya Flower Council Certified flowers that we grow help ensure long term soil health, and demonstrates our values to our consumers– that we respect our workers, neighbours, and surrounding environment.

After going through the intensive process of KFC certification, we are now perfectly positioned to reach people who truly care about our planet and we have an excellent tool to instantly and credibly convey our values to fellow flower lovers.

Flowers are one of the most universal gifts. They translate to joyous occasions, as well

as the saddest moments in life. When you give a gift, don't you want to know that you are sending a gift that is beautiful but also free of toxins and unhealthy chemicals? Flowers encourage people to touch their blooms, feeling a soft flower petal is a natural urge we feel even before we learn to walk. Flowers have inspired artists and thinkers since the beginning of time, and we treasure this legacy. As farmers we devote our lives to growing flowers that will bring people enjoyment and delight.

Mr. Andrew Tubei of Masai farm says, “I have never seen a person receive flowers, and not be happy.”By partnering with KFC, we have made a conscious decision to bring the absolute best quality, responsibly grown flowers to market. Flowers that will be shared with families and friends, over laughter and tears, enriching lives and of

course, bringing joy.

“Certification is a means, not an end goal”

Floriculture Sustainability Initiative (FSI) is an international foundation based in Brussels. At the foundation established in 2013, approximately 50 market parties and civil society organizations work together to make the floriculture sector more sustainable. FSI program manager Jeroen Oudheusden shares his vision: “Sustainability is a precondition for existence. It must be anchored in every organization’s strategy.”

The aim of the FSI is to ensure that the international sector produces and markets 90% of all flowers and plants sustainably by 2020. Says Jeroen, “We have now passed the halfway mark. This goes faster with plants than it does with flowers.”

Making sustainable supply more transparent

Jeroen has noticed an acceleration in the number of certified growers. “This is great, but

traders and retailers have to act as well. They must purchase sustainably. And the 90% ambition applies to Royal FloraHolland as well. It is very good that the auction is making the sustainable supply more transparent by adding the right information to products and making them traceable in the supply systems. In this way, growers can distinguish themselves and the traders can buy sustainable products in an efficient manner. Certified supply should eventually be a basic condition for offering at any given marketplace.”

Working together as a network

In addition to making certificates transparent and comparing them, FSI is also engaged with other themes to make the sector more sustainable. Examples include water purification, international projects for organic crop protection, and working conditions and human rights. “We work together as a network and share our information.

What we learn in one country, we

share in the other country. Growers do not have to be a member of FSI to make use of our knowledge. I would prefer growers to invest money and energy into sustainability and consulting FSI members.”

First positive step

Working sustainably is not, in the first instance, about certification. “The objective is for the process to be sustainable and to lead to a sustainable product. You can guarantee this with certification. In addition, reliable cultivation registration is important. If you have this in order, you are already on the way to a more sustainable process. You will then see where there is room for improvement. Many growers are already accustomed to that. My advice to growers who do not yet do so is to start with that today. Try to include good growers’ practices and market demand. Set achievable goals and show the market the initiatives you are undertaking



From Page 11

to increase sustainability. FSI members want more transparency in making the sector more sustainable. Certification is a means, certainly not an end goal. It does not solve all sustainability issues, but it is a good first step. I believe it's important that

organizations think about how they can pass the planet on to future generations in slightly better shape with attention to the three P's: people, profit, and planet."

Basket of Standards

The FSI 'Basket of Standards' offers an overview of the international certificates in different categories: social, sustainable or a combination. The requirements for the various certifications develop along with the

legislation, good agricultural practice and market requirements. FSI is going to split the 'environmental component' into environmental and good agricultural practices, both of which have to be clearly explained with (cultivation) registration. The new set-up also provides space for specific environmental labels such as MPS-ABC and PlanetProof.

Every grower is responsible

Jeroen believes that every grower is responsible for the sector's success. "If a product group deliberately does nothing in terms of sustainability, the market will seek alternatives for those products, and the entire market may suffer. Producers who do



A brief Interview with Elise Wieringa, Manager Quality Assurance & Sustainability at Royal Lemkes is one of the FSI accelerators.

Q: Certification, a must or a trend?

Elsie: Certification was one of the subjects tackled during the member sessions last November. You may be wondering what to do about this issue. What does it mean for you? In this triptych, a grower, a trader and the Floriculture Sustainability Initiative will each offer their perspective on certification.

Consumers demand for honest, reliable and sustainably produced flowers and plants is growing. Traders, including retailers, are becoming increasingly demanding on the subject of sustainability. 'Sustainable cultivation' means compliance with a

sustainability certificate.

Retailers, including large international supermarkets, garden centers, DIY centers and e-commerce companies, are imposing increasingly tough demands on growers in terms of sustainability. The Floriculture Sustainability Initiative (FSI) is the leading initiative for advancing sustainability in the international floriculture chain. Its concrete objective is to ensure that 90% of all plants and flowers traded or produced by its members are sustainable by 2020.

As an accelerator, you put a flywheel into

motion and crank it up in order to speed up the process, hereby increasing the number of growers switching to certification. For the near future a certificate is definitely a 'license to sell'.

Q: Sustainability in the chain, focus on awareness

Elise: "There is not one simple solution for achieving the FSI 2020 objective. A tailored approach will always be required." Change does not always generate immediate results. Changes made on one side of the chain could be detrimental to the objective on the other side. Fortunately we are aware of this. We are now also focusing on this awareness. For instance, we organize workshops on a regular basis for several parties in the chain, asking them where they envisage possibilities. This can produce excellent ideas. We strive to set an example

nothing call their right to exist into question. Working sustainably does not only apply to growers, but to traders as well. Do not just purchase sustainably; look at packaging and transport too.

The footprint of the entire chain is becoming more important.” Even after 2020, FSI will continue to encourage the sector to work sustainably. “We are already in discussion with our members about our plans after 2020. That year is not an end point, but a mere stop on the road to sustainability. This is an ongoing process. We continue to insist on a reliable cultivation registration because as a grower you have to be increasingly accountable with regard to your cultivation. You must ensure that you are transparent and reliable. That is and will remain the basis for the wonderful stories generated by sustainable business. That’s a huge opportunity, which we must take advantage of together!”

certification increases your market opportunities”

Peter cultivates roses all year round in the most environmentally conscious way

in the green sector and collaborate with our chain partners on increasing sustainability, from start to finish.”

Q: Are plants and sustainability compatible?

Elise: “Plants and sustainability may seem to be bedfellows but that isn’t necessarily the case. Raw materials are required for production and transport, which also contribute to carbon emissions. Furthermore, substances used during production are not always good for people and the environment, so their use must be reduced. Consumers may not

possible. They produce millions of stems per year. Five years ago the company joined a quality label for growers that places a great emphasis on sustainability.

“We have noticed that sustainably cultivated flowers are becoming increasingly important. Customers ask for them more often. And we always do our utmost to satisfy our customers’ wishes. When we joined a growers association, we immediately obtained a label certificate for traceability of pesticides, environment, safety and hygiene. This demonstrates that we are a sustainable company.”

Dotting the i’s

“For the label certification we register our pesticides and make sure that everything is clean. We also check our capital equipment regularly and conduct maintenance of our machine park once a year. Naturally, we were doing that as well before, but now we follow the regulations for the certificate and ensure that everything is really done on time. I think that well-organised companies will not have difficulty with this registration. Certification is a question of dotting the i’s. I am proud that we were able to accomplish this so quickly.”

want insects in their plants, but these creatures sometimes offer an alternative to crop protection agents that we prefer to no longer use. This is precisely why it is so important to include consumers in the awareness process. If they demand good, honest products, this will encourage increased sustainability throughout the chain.”

Let’s plantify the future

“Royal Lemkes has a green heart and believes in sustainable growth! There are

Good for the group’s interest

“All certified growers work sustainably. I consider that extra motivation. Previously, it was my problem if I didn’t do something right. Now if I don’t play by the rules, there are consequences. If a grower loses their certification, he deceives the other growers because direct sales are done under the label after all. I want to prevent my actions having negative consequences for the other growers. Everyone must do well in the interest of the group.”

Certification can have many benefits

“I would advise growers who want to obtain certification to register if at all possible. Look at the example of crop protection. Then you have something you can show, even to your customers. It doesn’t cost much money or time but can have many benefits because you improve your market opportunities. And often customers want to know how you cultivated your flowers and which pesticides you used. The government regulations are also becoming stricter. I feel that we must stay ahead, and that includes sustainable flowers and plants. With little to lose, why wouldn’t you go for certification?”

so many great initiatives that could be linked to sustainability that would benefit everyone. This also includes sustainable personnel growth. Invest in people, let them evolve, make sure they continue to think and ask questions. Only then will the best ideas come to the fore that could help us all in making sustainability the new standard. After all, sustainability also means continuity, and we cannot carry on in the same way for ever. Something has to change.”

Chequered Bloom: Rose Growers Reflect on Valentine's Day

February 14th is upon us. It is Valentine's Day; a day marked by lovers, friends and family to show affection by swapping such presents as flowers, cards, chocolates and other expressive, if not romantic gifts

But first, the ever fascinating Valentine's story

There exists several tales about the origin of Valentine's Day, and nobody knows if they are factual. The most famous ones all have endings. The first one is about the young Valentine, who was a victim of his belief on February 14 of the year 270. He, a Roman, converted to Christianity and by doing so offended the Roman leaders. On February 14 Valentine was tortured and beheaded. However, he succeeded in giving the daughter of the prison warder a note just before he died. The note contained the legendary text 'From your Valentine; forever marking february the 14th as a day of love displays.

Another story is about a priest in Rome named Valentine. An emperor named Claudius II had forbidden the Roman soldiers to marry, because he was of the opinion that unmarried men were better soldiers. Priest Valentine ignored this rule and united young couples into marriage. The emperor found out about this and imprisoned Valentine and sentenced him to death.

It is all Red

The big rush is over. In the weeks leading up to February 14th, growers worked around the clock to harvest and ship their flowers, and at the beginning of the week, the final Valentine's flowers left the farm. Also at the FloraHolland auction in Rijnsburg and Aalsmeer, the same trend happened. "The overall picture this year was moderate to good", says Amerik de Best, auctioneer at Rijnsburg. "In general, the quality was good and red received good prices at Rijnsburg. White was also doing quite well, but other colours trailed behind."



*Valentine's
Day;
The world's
official
lovers day.*

"There were many red roses available this year, which in turn resulted in the prices never reaching their estimated level".



No Valentine's prices for red roses

The prices of red roses are ideally very high towards Valentine's Day but that was not the case this year. In the previous years it has been possible to achieve good prices translating to about a cent per centimeter. This year red roses Valentine's prices at the auction have been unspectacular. The prices did not go up in the last week of January as is typical.

Prices were under pressure at the auction for non-red roses, especially the yellow and orange varieties. Looking at the product portfolio better Valentine's worthy prices for the spray roses in 60-70-80cm."

But what could have been the reason for the low prices? The reason for these low prices could be attributed to high supply and low demand. There were favourable weather conditions in Kenya and Ethiopia resulting in very good production, and poor prices in the last quarter of 2018 led many growers to flush their crop in anticipation for good Valentine's prices, effectively contributing to the above normal production levels. The sub-zero temperatures in Europe also hampered distribution logistics and outdoor sales.

Volumetric weight

Other than the lower prices, Kenyan growers

also have had to deal with higher freight costs as a result of the volumetric weight charging formula for freight that took effect from June 2018, coupled with higher freight charges that come with the extra capacity delivered during Valentine's. Consequently growers end up with a very low and sometimes even negative return.

Let's go on a quick tour around the world. How was

the supply from Africa and South America, what were the challenges, and how did it go in terms of logistics, handling and sales in various parts of the world?

Kenya

In Kenya, we heard most complaints regarding



the exorbitantly high freight costs, as a result of the volumetric weight charging formula for freight that took effect from June 2018. On top of that, the freight charges that came with the extra capacity delivered during Valentine's had an effect on the return of growers, Yvonne Tirop of Sian Roses said. Also Isabelle Andre of Red Lands Roses confirmed the higher price pressure. She also points out the poor handling of documents by shipping agents and



In general, the quality was good and red received good prices at Rijnsburg. White was also doing quite well, but other colours remained behind."

poor handling of cargo agents. Furthermore, growers were satisfied with the quality of the roses and the prices for pre-sale orders on the direct market. According to Tirop, the pre-sale prices were the best this year.

Ethiopia

In Ethiopia, not everyone was similarly enthusiastic. Esayas Kebebe of Agri-Lake Flowers, who grows roses in Bahar Dar and Holeta and supplies them to the Dutch auction, complained about the disappointing prices on the clock. "The weather conditions in both Kenya and Ethiopia was good, last year the temperature was cold and there was a shortage of water in Kenya. Additionally it might be some of the Holland growers supplied flowers that are not roses, which is different from the past years."

However, the fact that Valentine's Day fell on a Thursday this year is positive. "It is four days after the weekend, which is good for the buyers to have and to distribute flowers slowly."

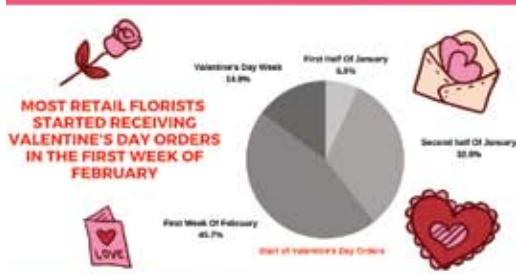
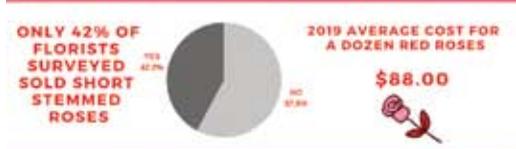
But Valentine's Day is not the most important day of the year for all growers. "The Valentine's season is not that important to us", says Wim Ammerlaan of AQ Roses, who grows roses in Ziway. "In Ethiopia, we usually do not have top production during this time of the year due to the relatively cold temperatures in December and January. Last year, the effects were extreme. This year it has not been that cold and the production continued well. We therefore do not specifically focus

To Page 16

2019 FLORIST SURVEY RESULTS FOR VALENTINE'S DAY



Retail sales still strong!
67% of Florists report higher Valentine's Day in-store sales vs last year.



Results based on survey of 347 retail florists between Feb 25 - 27, 2019

FLORANEXT

Floranext makes great florist software - Florist Point of Sale, Florist Websites, Florist Wedding/Event Proposals. For Florists, By Florists.

From Page 15

on Valentine's Day, but we choose for a year-round stable production with uniform quality."

Ammerlaan also points out that the price levels were very mediocre. "It seems that the peak is becoming shorter because the pressure from retail buyers is decreasing. Exporters focused on the wholesale and florists also seem to sell more flowers in a shorter time frame. Since September, we are noticing that the total demand is below average. But this is also partly the result of the challenging production year of 2018, with many quality based problems from Kenya and the extremely cold spring in Ethiopia. The popularity of a rose bunch in the supermarket has fallen compared to the past from the start of January, shops have been filled with tulips. Are too many roses entering Europe of which they do not know for whom they are produced?"

He also noticed that there were many red roses available on the clock early this year, which in turn resulted in the prices never reaching their estimated level. "Besides, we saw that the colors yellow and pink received very low prices in the run-up. Hopefully, with a steadier supply towards Women's Day, better price levels shall be realized."



Netherlands

In Holland, they've had quite some good weather. Production was up and prices were reasonable. However, the Dutch rose growers struggle to cope with the huge volumes entering the market, from especially Kenya and

Ethiopia. "In the past – say up to five to ten years back – the African rose growers mainly produced small headed roses", Dutch rose grower Aad Fransen of Fransen Roses tells us. "Since then, more and more varieties have been introduced, giving them the capacity to produce medium to large-headed roses. This is making things tough, especially since we need a certain price to level with the higher energy and price intensive production we have here. Talking revenue, prices for Red Naomi, averaged about 15% lower this year as compared to previous Valentine's days."

Colombia

According to Asocolflores, the Association of Colombian Flower Exporters, around 35,500 tons of flowers were sent out of Colombia, with the majority going to the US - 78% of the US imported flowers are grown in Colombia. Over a quarter of the exported flowers left Colombia as ready to sell, finished bouquets. Out of this country,

600 million stems of more than 1,600 varieties are exported, with Miami being the main destination. The good market behaviour during Valentine's Day was essential for the sector to achieve a 5.1% rise in its 2018 exportation (in tons).

When we ask growers, transport is again a dominant subject. One of the growers, David Quesada of Inverpalmas (who grows roses, carnations and mini carnations in the savanna near Bogota), was satisfied with this year's Valentine's Day. "Even though production was not what we expected, our sales numbers were not bad at all." He also tells us that the demand was not low but the buyers were not desperate to get flowers. "I think Ecuador's production was a little early, while we were a bit behind on some colours - it did not rain but we did not have clear skies either as usual. I think this may have delayed the rose production a bit, but the good thing is that it did not delay it enough to be inconvenient. It gave us the time to fulfill our customer's orders. Fortunately, we had some help from customers to move a few orders a couple of days to give the flowers some time to bloom at the greenhouses." And prices were good. "Since production was not very high, our customers and their customers did not have a problem to paying a good price."

Regarding logistics, he mentions the limited air space for the flowers as a challenge. "Because of this, we needed to have everything ready at the farm on time. It was a bit stressful, but at the end of the day we worked together with our customers. They offered great support, and we were able to make it; working as a team."

Juan Camilo Sanz of Macarena Farms, whose wholesale flower growers operate in the Colombian Andes Mountains, is less positive. He is not satisfied with Valentine's Day this year. "The weather was not good; sunlight was poor as it was very cloudy. These very cloudy



days resulted in a delayed production."

Ecuador

Out of Ecuador, about 15,000 tons of flowers were sent abroad to meet the demand of Valentine's Day. The sector has a new boarding point this year thanks to the resumption of cargo flights at Cotopaxi International Airport. The export increased by around 1,000 tons in relation to the shipment that was made for the same holiday, in 2018, the Ecuador Times revealed. The flowers, 92 percent of which are roses, went to the US, the Netherlands, Luxembourg, Russia, and Qatar.

From some Ecuadorian growers, we heard some relatively positive reactions. "I am 80% satisfied", says Antonio Bueno of Sisapamba (a rose grower in Cayambe). "The open market was over-served and too many roses were available, causing the prices for the open market to drop - they were about 10% lower than last year." The demand was actually very high for pre-bookings. "Clients this year wanted to book as much as possible. However, as mentioned before, the open market availability meant it was very difficult to sell."

To manage the crops to start getting ready just on time and not too early, and trying to sell

at the best possible price in the face of the open market availability was the main challenge according to Bueno. But all in all, he does not have any weather complaints. "It was very warm and dry, so very good this year."

Valeria Lobato Jarrin of Florpaxi, who grows roses in Tanicuchi - Lasso in the province of Cotopaxi, is also satisfied. "We sold all our production and also our pre-orders - we felt that the demand increased this year. Additionally, our flowers were allocated to new markets and new clients, which is always something positive." Next to demand, she is also pleased with the prices. "Prices were higher than in the regular season. These are the price ranges we managed last year as well."

The weather, however, was vreally unpredictable. "We felt that this year, the weather conditions were more unstable than last year. We faced very sunny days followed suddenly by very rainy days and vice-versa. In our opinion, the fluctuating weather in Ecuador was a big challenge."

Gino Descalzi of Fiorentina Flower (another rose grower from Cayambe) told the Ecuadorian Times that the hot weather that occurred during this rainy season advanced the production in the flower farms and, as a result, there is an abundance of flowers in the market. "Due to the large amount of production, the price dropped." To conclude, Jarrin said that the extreme cold wave that occurred in the USA resulted in some cancelled flights.

Conclusion

A combination of factors have made Valentine's Day a challenge this year. There is a lot of product in the market and the demand isn't great. As a result, the prices at the auction are lower than ever before during this time of the year. On top of that, Kenyan growers have had to deal with the higher freight costs.



Consumers expect flowers to last 8+ days

We all love flowers. But in order to keep them long-lasting can be a challenge. Flowers play an important role in many occasions such as: a Birthday, Valentine's Day, Mother's Day or to say thank you. What if you could enjoy those moments for even longer? A large scale consumer research conducted by Q&A in Europe, commissioned by Chrysal, showed that consumers expect flowers to last at least 8 days. In order to fulfil these expectations the use of flower food is essential. Chrysal now introduces a new and improved flower food, in a new attractive packaging. It will make your flowers stay beautiful up to 60% longer and will lead to higher customer satisfaction. And... a happy customer will return!

Chrysal is now introducing a new and improved flower food with all the needed nutrients to keep your amazing flowers and bouquets fresher and more beautiful. Chrysal Supreme is developed for supermarkets and bouquet makers and ensures your customers can enjoy the flowers up to 60% longer.

About the research

A large scale consumer research (8.000 respondents) conducted by Q&A in Europe, commissioned by Chrysal, shows that 91% of consumers find the freshness of flowers the most important aspect when

purchasing flowers. Moreover, consumers expect the flowers to last at least 8 days. And to fulfill these expectations it is essential to use flower food. However, the research shows that only 54% (European average) of consumers

consistently use the flower food sachet attached to the flowers! Many consumers are still not aware of the benefits of flower food. Once it is explained that flower food will make your flowers stay beautiful, 85% of customers will start using flower food more often. This will lead to a better experience and to happy and loyal customers.



If you want to know more about the research and how to keep your flowers beautiful even longer, please contact us; we are always happy to help.



For more info on our services and products, please contact us at: info@chrysal.co.ke

CHRYSALE



Battle of Blooms Goes to the Skies

Regardless of how you grow, the profitability of your farm will depend on three main factors: demand, viability, and profit margin. Lots of new farmers focus the majority of their efforts on their ability to grow a single crop and forget to do research on the other factors.



Turkish Cargo carries 4k tonnes flowers from Nairobi, Quito

Turkish Cargo transported 4,000 tonnes of flowers from Nairobi, Kenya to Stansted, Narita, Maastricht, and Riyadh; and from Quito, Ecuador to Amsterdam, Beijing, Manila, Jakarta and Taiwan, in addition to its charter flights.

The accomplished air cargo brand carried flowers between January 1 to February 10, 2019. Providing its services by means of the air-conditioned aircraft for maximum freshness and shelf-life with cold chain solutions, Turkish Cargo makes it possible to carry the flowers of Africa, an important centre to grow flowers, to the entire world with its air cargo services provided to 36 countries across the African region, and a total of 54 destinations.

Carrying 20,000 tonnes of flowers in 2018, Turkish Cargo continues providing high-quality and well-preserved air cargo service enriched with temperature-controlled containers at different temperature ranges in a total of 43 special cargo rooms available on board the aircraft.

While reaching more than 300 global destinations in 2018, Turkish Cargo also carried a total of 1.4 million tonnes of cargo.

AFKLMP Cargo moves 3,300 tonnes of flowers to Europe

Air France KLM Martinair (AFKLMP) Cargo has shipped about 3,300

tonnes (up 10 percent compared to last year) of flowers to Europe from leading production and export countries such as Kenya, Ecuador, and Colombia over a two-week period in January and February. The additional 1,100 tonnes for Valentine's Day consisted of some 57,500,000 stems.

Using its B747-400 full-freighter and combi-aircraft, the airline was able to generate ample main deck capacity to and from our three main flower starting points of Nairobi, Quito, and Bogota. For the first time, AFKLMP rerouted four B777F flights from Nairobi to Paris via Amsterdam to support the demand for flowers and Dutch trade. The bellies of long-haul passenger aircraft and interline partners are also well suited to carrying flowers to Europe. The greatest share of our capacity is mainly intended to supply the European markets - primarily Dutch, English, Italian, French, Russian, Asian, and most notably Japanese.

In 2018, AFKLMP Cargo shipped more than 84,000 tonnes of flowers from Africa and Latin America to Amsterdam Airport Schiphol. "We met seasonal peak flower demand for this year's Valentine's Day with enormous success. We are proud to show our strong commitment and professional dedication to the international flower business, which has a proven history over so many decades," Marcel de Nooijer, executive vice president, AFKLMP Cargo said.

To Page 22



KORDES ROSES
East Africa

From Page 20

To move flowers and plants seamlessly from grower to wholesaler; Royal FloraHolland, Schiphol Cargo, and AFKLMP Cargo have initiated the Holland Flower Alliance, an ambitious group of floricultural logistics professionals dedicated to the pursuit of innovation and sustainability in the floral supply chain. Amsterdam remains Europe's logistics centre for the flower market, with Schiphol Airport being the world's preferred flower hub, connecting all key production and consumer markets.

Panalpina flies 1.6 mn roses from Nairobi-Sydney through direct freighter

Panalpina, the international freight forwarding logistics company, has transported 1.6 million stems of freshly cut roses from Nairobi to Sydney, using B777F aircraft for Valentine's Day.

The 'Love Plane' marks the first direct full freighter flight in this route making Panalpina the first and only freight forwarder with this service offering in the market. The special delivery follows the expansion of Panalpina's cold storage facility in Nairobi's Jomo Kenyatta International Airport in November 2018, which will enable the company to move a projected 80,000 tonnes of flowers, fruit, and vegetables in and out of Kenya by 2020.

"Some say love makes the world go round. Panalpina makes things go round the world, and we are happy to make Valentine's Day much more special for our friends down under," said Quint Wilken, Panalpina's global head of air freight perishables.

Kenya is one of the world's largest exporters of cut flowers, which represent the country's second largest export commodity after tea, and Australia is one of the biggest Asia Pacific importers of the East African nation's famed roses.

Lufthansa Cargo carries 900 tonnes of roses for Valentine's Day to Europe

To serve high import demand around



"Some say love makes the world go round. Panalpina makes things go round the world, and we are happy to make Valentine's Day much more special for our friends down under,"

Valentine's Day, Lufthansa Cargo has transported 900 tonnes of the long-stemmed flowers on the Quito-Frankfurt, Bogota - Frankfurt, and Nairobi - Frankfurt routes this year, which are equivalent to some 10 million individual roses. The roses are being imported over a period of about three weeks.

Most of the roses begin their journey in Bolivia, Ecuador or Kenya. To keep the flowers fresh from post-harvest until its recipient, the airline has developed the special Fresh/td product specifically for the transportation of perishable goods such as flowers and food.

The roses are harvested several times a day at the flower farms in Africa and South America and then immediately placed in water and cooled. Following sorting and packing, the flowers are taken directly to the airport and loaded onto the freighters. The flowers only

remain in Frankfurt Airport for a short while.

Just a few hours after landing, the roses are transported onwards from this city on the Main River out into all of Europe - primarily to other German cities, but also to neighbouring countries, including Austria and Switzerland.

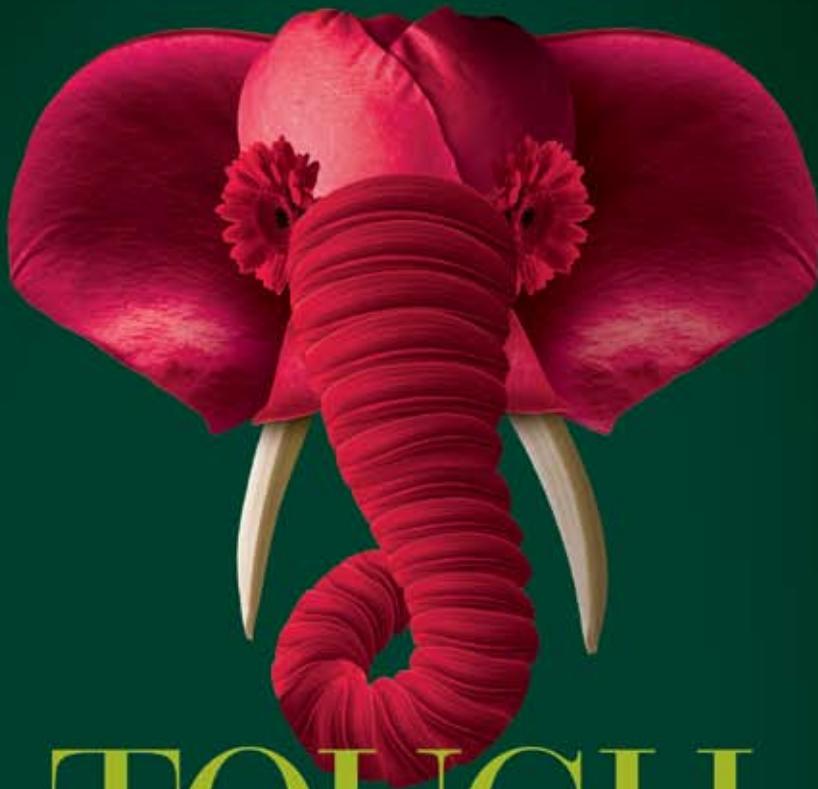
Carriers add charters for demand surge

Many carriers working within networks that encompass major exporting regions of roses and tropical buds - e.g. East Africa and South America - offered additional services just to address the flux in demand from markets in Europe and North America.

Emirates SkyCargo is one such airline. It added nine 777 freighter flights out of Nairobi (NBO) and Quito (UIO) on top of its existing operations for the weeks preceding the holiday.

Earlier this year, SkyCargo launched a new freighter route from "Nairobi directly to Sydney and from Quito directly to Los Angeles" to bolster its perishables network. The airline's program, Emirates Fresh Breathe, specializes in regulating the cool-chain of pre-assembled bouquets (pictured.)

UPS also boosted its frequencies - adding a total of 50 charter flights during the period of heightened demand. It expected to deliver some 89 million flowers in time for Feb. 14 - an increase of about 1 million flowers from the quantity it delivered last year, which would add up to more than 4,000 tonnes of fragile, temperature-sensitive blossoms.



TOUGH BUT FRIENDLY

Arima provides an effective and noble control of spider mites that guarantees high quality roses for demanding markets.

- *Highly compatible with biological controls.*
- *Quick knockdown and long lasting activity against spider mites at any stage of development.*
- *Ideal complement for anti-resistance programs.*
- *Safe solution for crops and spray operators.*

EVERY FLOWER TELLS A STORY™



syngenta®



Thrips are Hitting Growers Where it Hurts Most

What are thrips?

Thrips are minute, slender insects, usually only a few millimetres long with piercing-sucking-mouthparts and the ability to cause direct damage to flowers making it unmarketable for export.

How do thrips feed?

Thrips have piercing-sucking mouthparts. They use a needle-like structure to puncture plant tissue and a second tube-like structure which is placed into the hole through which plantsap is extracted, subsequently causing direct damage to the crop.

What are the Damage symptoms?

In Flowers there are mainly two types of Thrips species that attack Roses, Carnations and other flowers. The western flower thrips (*Frankliniella occidentalis*) and Thrips tabaci also known as Onion thrip. These thrip species mainly feed on both leaves and flower petals with the majority of their damage to roses occurring throughout the growing period of the flowers. Their feeding may result in distorted buds that open only partially or abort prematurely. Feeding on petals may result in petals streaked with silvery-white or brown as well as petals with browning edges. White and light-colored rose blossoms appear to be particularly attractive to thrips. Young leaves may be distorted and flecked with yellow as a result of thrips feeding.

Are all thrips species damaging to Flower?

Not all species of thrips necessarily cause direct damage to crops. Some species are considered to be predators as they feed on other thrips and other insects such as mites, others are known to help with pollination and some species even feed on fungal spores. Unfortunately, several of these species are also known to be plant-feeders and cause economic damage.

Monitoring

Monitoring is important for early detection of a thrips infestation; determining the numbers of thrips present in the greenhouse; detecting seasonal trends in thrips population over the year; and in assessing the effectiveness of management strategies implemented. Yellow or blue sticky cards are the easiest way to monitor for thrips. Gently tapping the terminal buds and flowers onto a white piece of paper and using a 10x magnifying lens to examine the insects that fall out is an easy way to check for thrips. Be sure to record population levels.

After climbing one great hill, one only realizes that there are many more mountains to climb'. This old adage attributed to one of African greats rings true in thrips management.

The recent restrictions of numerous active ingredients especially from organophosphates and neonicotinoids classes by different markets has made management of thrips very difficult as our senior correspondent found out. Growers serving different markets are in a dilemma and a cross check of their stores one will mistake them to a stockist. Some markets will restrict acephates others will accept, some imidacloprid others not, it is the same story with abamectin, thiamethoxam, thiacloprid, carbamates, fipronil, mancozeb etc.

As this is happening Kenya is facing acute water challenge and thrips been hydrophobic are multiplying very fast. The past few years has seen the rise and spread of thrips in greenhouse farming, hitherto a minor pest, to become the most destructive insect pests of the greenhouses. Thrips are hitting growers where it hurts most!

Thrips has been, and still is, a difficult insect pest to control or regulate in greenhouse production systems leading many to believe that we have reached an impasse regarding its management. Dealing with thrips, therefore, requires a holistic approach integrating the methods detailed above. Key in this approach is knowledge about the biology of the pest, and indeed all other relevant pests, the crop (s), the cropping systems, pest management options etc. Knowledge, we believe is the best weapon against pests!

How do we Manage thrips?

Thrips are difficult to control. Always use an integrated program that combines the use of good cultural practices, natural enemies, and the most effective IPM-friendly available.

Start clean

Making sure the young plants are clean is an important part of keeping a crop thrips-free. Transplants should be inspected for thrips before being placed in a greenhouse. Granted, this may be too labour intensive and time consuming especially when large quantities of plant material are involved but sticky card traps placed among the new plants for a day or two will quickly indicate the presence of thrips.

Exclusion

Staying clean would involve excluding thrips



Thrips stages

from the greenhouse as well as eliminating sources of thrips infestation. Where feasible, covering the openings to greenhouses is a very effective delivering a reduction of up to 70% in pest problems. Screening to exclude thrips must be very fine. Such screening, known as microscreen, has a maximum hole size of 192µm (0.037mm²). This, however significantly reduces air flow when placed over vents, and growers must modify ventilation systems to compensate for this.

Weeds and plant debris

Weed control is essential for a successful thrips control program. Certain weeds, particularly those in the Composite and Solanaceae families, and those with yellow flowers, attract thrips adults serving as refuge

both for thrips and tospoviruses. As such weeds must be removed from both inside and around the greenhouse. It is also essential to immediately remove plant debris and bloomers from the greenhouse or placed into containers with tight-sealing lids, and not in the open as is common practice in most farms. Thrips adults will abandon desiccating plant material for the main crop.

Biological control

Biological control of thrips relies on the use of natural enemies including predatory mites and pirate bugs, entomopathogenic (or insect-killing) fungi, and entomopathogenic nematodes.

Predatory mites: Like thrips, they prefer small niches where contact between predator and prey is maximized. Some predators feed on pollen when thrips populations are

low and must be introduced before a thrips population has built up to damaging levels. The mites establish themselves on leaves, usually on the undersides, and are most effective in attacking 1st instar



thrips nymph. They use their mouthparts to pierce the thrips and suck out the cellular fluids.

Other predators regulate thrips populations by feeding on the 1st and 2nd instar nymphs. They should be applied on tender shoots and applied frequently based on pest pressure. We also have another predatory mite, which resides either in the soil or growing medium feeding on the pupal stage and should be applied on moist soil/medium. Lastly the predaceous mites establish themselves on a crop, mate and reproduce in the greenhouse. These mites are susceptible to many insecticide sprays.

Pathogens: Several pathogens have been

investigated for control of thrips. A number have shown to be very effective in managing thrips populations in cut flowers where relative humidity is high. They are capable of infecting both adult and juvenile thrips. Frequent usage will ensure the fungus is present on most crop foliage affecting juvenile and adult thrips.

We also have another fungus which is effective in infecting the soil-dwelling prepupal and pupal stages and also kills sciarid flies larvae in the soil.

The key to implementing a successful biocontrol programme is to release biocontrol agents early enough in the cropping cycle. It is important to note that natural enemies will not regulate an already established or existing high thrips population because it takes time from release before natural enemies will lower thrips populations below damaging levels. Moreover, natural enemies will not eradicate (neither will insecticides) thrips.

Chemical control.

Chemical insecticides play an integral role in thrips management programs, more so because the tolerance of thrips damage on greenhouse-grown ornamental crops is very low. Insecticides with contact or translaminar activity are generally used to control thrips, because systemic insecticides typically do not move into flower parts (petals and sepals) where thrips normally feed.

High volume sprays are typically required to reach thrips that are located in hidden areas of plants such as flower buds. Most available insecticides have no activity on eggs and pupae. Repeat frequent applications are therefore warranted to kill the life stages that were not affected by previous application. However, frequent applications may lead to the development of insecticide resistance, another elephant in the room of thrips management, and possible plant injury (phytotoxicity).

Conclusion

The only solution is continual management whether hot or cold, dry or raining, thrips will always need to be managed only reduction of spray intervals can be encouraged.

Export vegetables growing in Kenya

Due to its varied climatic and ecological zones, Kenya provides a suitable environment for growing vegetables for export. The country has a well-qualified and experienced agricultural labour force, and its location and well-developed connectivity with key markets are key elements in the growing of fresh produce exports, writes Mr. David Mulandi of Amiran Kenya Ltd.



Kenyan vegetable growers are organized into either large group farms, single farms or out growers who produce for export companies under contract. The latter have to follow rules put in place by the contacting company. This is to ensure that homogeneity and food safety standards are met to the satisfaction of the produce's end user.

All Kenyan produce for export are produced under strict adherence to Global GAP stipulations, which dictate on the requirements being met before anyone is allowed to export vegetables. Sufficient measures are put in place to ensure that sanitary and phytosanitary basics are considered by all growers.

Several government institutions are tasked with the certification and inspection of the Kenyan produce, which has led to steady growth in both export value and volume.

Economic importance of Export Vegetables in Kenya

Kenya is one of the key exporters of fresh vegetables to the European Union with over 87,000 tons per year. These exports are valued at more than 24 billion Kenya shillings.

Besides earning the country revenue through exports the vegetables segment contributes enormously in jobs creation for Kenyans and expatriates working in the industry. Thousands of Kenyans earn a living either directly or indirectly by working in or with the vegetable growing farms.

Farms employ many in areas like growing, transport, administration, procurement, security etc. Others, while not directly employed by the vegetable growers, earn through providence of farm inputs like seeds, farm infrastructure (greenhouses, shade nets, irrigation systems) pesticides, fertilizers and

packaging materials. Others still, earn their living via providence of such services as trainings, logistics communication etc. These are rendered to the vegetable growers.

Majority of all these people are tax payers, benefitting the government as they benefit themselves.

Some of the vegetables grown in Kenya

Kenya grows numerous types and varieties of vegetables. With this said; we'll focus on snow peas, garden peas, French beans, broccoli, cabbage and tomatoes.

Peas

Scientific Name: *Pisum sativum*

Order / Family: Fabales: Fabaceae

Common Names: Garden pea / English pea / green pea / snow pea / mangetout



The pea is an important frost-hardy, cool-season, nutritious leguminous vegetable that is widely cultivated throughout the world. As a cool-season crop, it is extensively grown in temperate zones. However, in the tropics and subtropics, it is restricted to cooler altitudes and winter season respectively. It is a rich source of protein (25%), amino acids, sugars (12%), carbohydrates, vitamins A and C, and the minerals calcium and phosphorus. It also has a small quantity of iron. Peas, being very rich in proteins, are valuable for vegetable purposes.

Climatic conditions, soil and water management for peas production

To realize maximum yields in peas, one has to grow them in cool and moist conditions.

Temperature: peas can grow well between 10oC - 30oC, but the optimum temperature is 20oC. Above 30oC, there is poor pollination leading to poor yields.

Water: a minimum of 400-500 mm of rainfall is required during the growing season, and good soil moisture is essential during flowering and pod development.

Altitude: a minimum of 750 Masl is ideal.

Soil: this crop can grow on a wide range of soil conditions, but soils with a pH of 6-7.5 and high organic matter content are the best.

Field fertilization

The total uptake of a crop yielding 5 to 6 t of seed per hectare is 30 to 35 kg/ ha P and 200 to 250 kg/ha K. The garden pea responds well to a starter dose of N fertilizer, even when nodulation occurs. An indicative fertilizer recommendation on light, medium-rich alkaline soils is 40 kg N, 50 kg P, 150 kg K and 30 kg Mg per hectare.

Weed control

Weeds should be rigorously controlled. The critical period of weed competition is 3 to 8 weeks after emergence. The pea crop severely suffers because of weed growth at the early stages. This may be the result of wider spacing given for hand picking of green pods, or for slow growth of pea during the early stage. Later, the crop smothers the weed growth by covering the ground. Generally 2 to 3 weedings are necessary to keep the field free from weeds. Manual weeding is better than mechanical weeding as the latter may damage the root system. Weeding at later stages is avoided as it may also damage the crop by trampling and mechanical breakage of tender and succulent stems and branches. Weeds can be controlled by hand weeding where labour is cheap, whereas chemical weed control is more practical in large-scale production. Early land preparation can encourage weed seeds to germinate so that they can be destroyed in subsequent cultivation.

To Page 30

Don't Let Caterpillars Run Over You..Let Runner run over them

Introduction

Runner™ 240 SC contains active ingredient methoxyfenozide 240g/ lt. Runner has a broad label registration for control of caterpillars.

Some key benefits of Runner™ 240SC;

- Offers long residual control at a low cost per day
- Offers some ovicidal activity hence if applied during or before egg laying minimal crop damage will occur.
- It is safe on bees and other beneficial insects
- Methoxyfenozide is compatible with IPM programs
- Methoxyfenozide has a uniquely different mode of action, excellent in resistance management.

Mode of Action

Methoxyfenozide is an Insect Growth Regulator (IGR). It interferes in the development process of an immature lepidopterous insect.

Not all IGR's have the same Mode of Action (MoA)

- Ecdysone mimic - It mimics and competes with the natural hormone, ecdysone, for its receptor
- Initiates a pre-mature and lethal molt to caterpillars
- Effects are different from chitin biosynthesis inhibitors and juvenile hormones mimics and take place over a much shorter time period

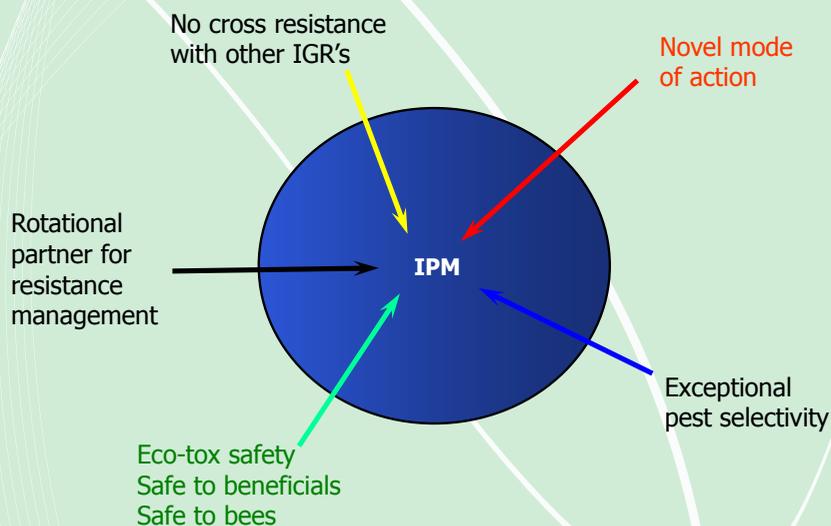
Uptake Path

- Almost exclusively by ingestion: stomach poison
- Very limited contact activity
- Some translaminar activity
- Excellent rainfastness and residual activity
- Primarily affects young larvae; ovicidal effect in some species.
- Adult fertility and fecundity effects also observed in some species
- For all these reasons it is very important to have exceptionally good coverage and to apply it earlier.

Benefits

- Methoxyfenozide has a perfect fit in IPM programs. Why ??
- Absolutely safe on beneficials
- Absolutely safe on bees
- Safe on mammals and workers
- Can be used during flowering
- Does not cause flaring of other pests: aphids, mites, whiteflies, scales, mealybugs
- Belongs to unique MoA group which can be used in rotation programs to fight insect resistance and promote sustainability of chemical solutions

Methoxyfenozide – Ideal Tool for Integrated pest and insect resistance management programs



DOW RESTRICTED



Dow AgroSciences

Runner™

240 SC

Insecticide



Runner™ 240 SC

the Innovative Crop Protection Solution that knows...

... Crop Protection Matters... Not speed of kill.

Don't let caterpillars run over you, Let Runner run over them!



Dow AgroSciences

Doris Kawira

Mobile: +254 715 773 043

Dow Chemicals E.A Ltd

P.O. Box 2170-00606

Nairobi Kenya

Distributed by

Lachlan Kenya Ltd

P.O. Box 49470-00100

Nairobi Kenya

Tel: +254 20 2073912

Cellphone +254 722 209474





From Page 27

French beans

Scientific Name: *Phaseolus vulgaris* L.

Order / Family: *Fabales: Fabaceae*

French beans are a highly specific vegetable. In Kenya they are mainly grown for export. There is a large demand for beans in both fresh and processed forms from West European countries

Climatic conditions, water and soil requirements

The optimum temperature range for growing French beans is 20-25°C, but can be grown in temperatures ranging between 14 and 32°C. Extreme temperatures result in poor flower development and poor pod set. However, French beans mature faster in warmer areas. However, French beans can be grown between 1000 and 2100 meters above sea level. Rain fed cultivation is possible in areas with well distributed, medium to high annual rainfall (900-1200 mm) but to maintain a continuous production especially during the dry season, irrigation is essential. During the dry season up to 50 mm of water per week is required. This could be applied through furrow or overhead irrigation.

French beans grow best on well drained, silty loams to heavy clay soils high in organic matter with pH 5.5-6.5.

Fertilization

Macronutrients uptake (kg/ha) at a yield of 13 t/ha

N	P2O5	K2O	MgO	CaO
129	21	90-100	26	60

Base dressing (kg/ha)

N	AS	P2O5	SSP	K2O	SOP
21	100	40-70	200-350	50	100

Runner Beans

Scientific name: *Phaseolus coccineus*

Family: Fabaceae

Description

Originating from the highlands of Central America, the Runner Bean is a promising crop for high-altitude areas of the tropics. Large inflorescences (branched flower clusters) and edible beans are produced on rapidly climbing vines that are 3-4 m long, which, in the absence of freezes, are perennial, returning year after year from tuberous roots. Some varieties have a more shrub-like growth habits. Runner Beans are one of the most productive

types of beans (900-1100 kg/ha dry beans in Kenya) in mild climates.

Cultivation

- **Elevation:** 0 - 2,000 m
- **Rainfall:** Consistent throughout year (500 – 2000 mm); susceptible to drought
- **Soil Types:** Well drained; wide range (light to medium textured is best) of soil types
- **Temperature Range:** 16-21°C; temps over 32°C limit seed formation
- **Day Length Sensitivity:** variety dependent (domesticated forms usually short-day plants)
- **Light:** Full-sun Runner Beans are nitrogen-fixing

Fertilization

- DAP 18.46.0 is applied at planting a rate of 30g/m.
- After about 4 weeks, top dressing with a high nitrogen fertilizer like Urea 46%N and a balanced NPK fertilizer is done.
- When the first flowers appear, high nitrogen fertilizer application is reduced, so that the crop may be ready for the reproduction phase.

Tenderstem Broccoli

Broccoli is rich in vitamins and minerals, and is a good source of Vitamin A, potassium,

folic acid, iron, and fiber. Because of this, broccoli has been dubbed the “crown jewel of nutrition.”

It is grown for its tasty spear and edible stem.

Climatic requirements

Temperature: Optimum soil germination temperature 22 °C while the optimum growing temperature 15.5 - 17 °C.

Soil requirements

It requires well-drained, loamy soils, with an effective rooting depth of approximately 450 - 600mm and a pH of 6-6.8.

Fertilizer requirements

N: 200 - 240kg/ha. 60 – 80kg/ha applied pre-plant and top dress balance at 1, 2, 3 and 4 weeks after transplant.

P: Plant uptake is 50 – 60kg/ha per season.

K: Plant uptake is 250kg/ha per season. 125kg/ha is applied pre-plant and 125kg/ha 4 weeks after transplant.

Microelements:

TSB sensitivity to low: Manganese (Mn), Zinc (Zn), Copper (Cu)

High Micro-element sensitivity to: Boron (B), Molybdenum (Mo), Iron (Fe)

Main pests in export vegetables

1. Thrips

Thrips belong to the order Thysanoptera, and are tiny sucking insects that are destructive to plant tissue. They are important to monitor and manage, as pests that destroy and distort the growing shoots of most crops are quarantined. These pests will likely lead to flower damages, ultimately compromising on the yield.

Approved crop protection products for thrips include; *Azadirachtin*, *Beauveria bassiana*, *Beta-cyfluthrin*, *Bifenthrin*, *Deltamethrin*, *Lambda-cyhalothrin*, *Metarhizium anisopliae*, *Pyrethrin* and *Spinosad*

2. Caterpillars

Caterpillar is a broad term used for all destructive larvae of insect pests. It includes leaf miners, Cut worms, False codling moths, Fall Armyworm, Cabbage webworm, African bollworm etc. These pests are extremely destructive as they chew the green parts of a plant and can lead to total crop failure. Some attack and damage young seedlings leading to low crop densities, while others will eat plant foliage, reducing the photosynthetic surface. Leaf miners on the other hand burrow inside the leaves and fruits of some vegetable crops, significantly reducing the yield and shelf life.

Crop protection products used in management and control of caterpillars include: *Bacillus thuringensis*, *Beta-cyfluthrin*, *Chlorothalonil*, *Deltamethrin*,

Indoxicarb, *Lambda-cyhalothrin*, *Lufenuron*, *Pyrethins*, *Spinosad*, *Spiromesifen*, *Tebufenozide* and *Thiocyclan Hydrogen oxalate*.

3. Diamond Back Moth (DBM)

Scientific name: *Plutella xylostella* (Linnaeus)

Egg: Diamondback moth eggs are oval and flattened, and measure 0.44 mm long and 0.26 mm wide. Eggs are yellow or pale green in color, and are deposited singly or in small groups of two to eight eggs in depressions on the surface of foliage, or occasionally on other plant parts. Females may deposit 250 to 300 eggs but average total egg production is probably 150 eggs. Development time averages 5.6 days.

Larva: The diamondback moth has four instars. Average and range of development time is about 4.5 (3-7), 4 (2-7), 4 (2-8), and 5 (2-10) days, respectively. Throughout their development, larvae remain quite small and active. If disturbed, they often wriggle violently, move backward, and spin down from the plant on a strand of silk. Overall length of each instar rarely exceeds 1.7, 3.5, 7.0, and 11.2 mm, respectively, for instars 1 through 4. Mean head capsule widths for these instars are about 0.16, 0.25, 0.37, and 0.61 mm. The larval body forms tapers at both ends, and a pair of pro-legs protrudes from the posterior end, forming a distinctive “V”. The larvae are colorless in the first instar, but thereafter are green. The body bears relatively few hairs, which are short in length, and most are marked by the presence of small white patches. There are five pairs of pro-legs. Initially, the feeding habit of first instar larvae is leaf mining, although they are so small that the mines are difficult to notice. The larvae emerge from their mines at the conclusion of the first instar, molt beneath the leaf, and thereafter feed on the lower surface of the leaf. Their chewing results in irregular patches of damage, and the upper leaf epidermis is often left intact.

Pupa: Pupation occurs in a loose silk cocoon,



Crop protection



Pupa Stage



Diamond Black Moth

From Page 31

usually formed on the lower or outer leaves. In cauliflower and broccoli, pupation may occur in the florets. The yellowish pupa is 7 to 9 mm in length. The duration of the cocoon averages about 8.5 days (range five to 15 days).

Adult: The adult is a small, slender, grayish-brown moth with pronounced antennae. It is about 6 mm long, and marked with a broad cream or light brown band along the back. The band is sometimes constricted to form one or more light-colored diamonds on the back, which is the basis for the common name of this insect.

Damage: Plant damage is caused by larval feeding. Although the larvae are very small, they can be quite numerous, resulting in the complete removal of foliar tissue except for the leaf veins. This is particularly damaging to seedlings, and may disrupt head formation in cabbage, broccoli, and cauliflower. The presence of larvae in florets can result in complete rejection of produce, even if the level of plant tissue removal is insignificant.

Products commonly used for control of DBM: Flubendiamide and Trichogramma nr. lutea

General product specifications to Europe (source infonet biovision)
(Specifications may vary within the EU countries and other European countries.)

French beans

1. Extra fine

Length: minimum 8 cm, maximum 10 cm

Diameter: minimum 4 mm, maximum 6 mm

Turgidity: should be less than 5% flaccid

Colour: mid to dark green

Straight pods with very slight curvature

Pest and disease tolerance: 0-5% rust and 0-5% anthracnose. However, most supermarkets demand totally blemish-free

2. Fine

Length: minimum 10 cm, maximum 17 cm

Diameter: minimum 6 mm, maximum 9 mm

Flesh mostly juicy and crisp

Pest and disease tolerance: < 5% (pest damage, pest infestation and mechanical damage). However, most supermarkets demand totally blemish-free crunchy and moist (with < 3% dehydration visible)

3. Bobby

Length: minimum 14 cm, maximum 17 cm

Diameter: minimum 8 mm, maximum 10 mm most supermarkets demand totally blemish-free

Snow peas

Length: minimum 6 cm, maximum 11 cm

Width: minimum 1 cm, maximum 2.5 cm

Most supermarkets demand totally blemish-free

Red cabbage

- Receiving temperature should be at <15°C a dark purple colour with a turgid, compact and round/circular head.

- There should be no pest damage or mechanical damage.

- They should be firm, free from discolouration and coarseness, and leaves should be well-formed.

- They should be generally clean and packaged in crates without damages and no soiling.

Tender stem broccoli

- Leaves should be medium to dark green

- Heads should be fresh, firm and turgid, no pest damage with no length and 6-10 mm diameter required, only allowing <10% outside the range.

- Single terminal heads should be used, with straight heads packaged

in crates free from any soil contaminants

Garden peas

- The pods should be medium to dark green and straight in nature, with no pest damage on the pods.

- Mechanical damage is not acceptable, with a smooth and tender texture without any depressions.

- Diameter of the peas is recommended at 6-10 mm and no diseases.

The major causes of shipments interceptions in the EU are:

- Noncompliance with regulations.
- Presence of harmful organisms (quarantine pests) in consignment
- Pesticide residues above the acceptable limits in and/or on produce.
- Other quality considerations.
- Inappropriate documentation.

The major quarantine pests are:

- Bollworms (*Helicoverpa spp.*).
- Leaf miner (*Liriomyza spp.*)
- White flies
- Fruit flies
- Thrips
- Spider mites

The package material should contain the following information:

- Shipper name and address
- Product and quantity

- Class
- Country of origin
- Recyclable symbols and the green dot where they apply

Challenges facing Export vegetable growers

1. Insufficient rainfall in some parts of the country leads to low water levels, hindering production of vegetables. Droughts lead to job cuts as the farms will not be producing enough crop.

2. Restrictions of using some products by the market while at the same time demanding a

clean produce is a delicate balancing act by the growers and has led to limited production by some growers.

3. Migratory pests have become a major concern for growers. Some of these pests are difficult to control once infestation has occurred and cause great losses to growers.

4. Handling of fresh produce requires a lot of keenness due to their perishability and sometimes growers get huge losses due to post harvest losses



Caterpillars

Spray Programme: Positioning of Spinetoram (Radiant) vs methoxyfenozide (Runner)

Think Portfolio and Rotation – spinetoram and methoxy highly complementary	
<p>Use RUNNER when;</p> <ul style="list-style-type: none"> • Spodoptera and loopers are the main pests and Heliothis is minimal. • Early season when Heliothis is generally not present and when fruiting structures are not developing. • During bloom for complete bee safety. • Where parasitoid safety is an over-riding concern. • For lep control where long residual is needed. • For cost/effective worm control : <ul style="list-style-type: none"> - very long residual. - lowest-cost worm control per day • As a preferred rotation partner for spinetoram and lepidopteras control wherever possible. 	<p>Use RADIANT when;</p> <ul style="list-style-type: none"> • Heliothis/Helicoverpa is your key pest. • Plutella is your key pest. • In preference to methoxy when you have a cryptic-feeding lep pest. • Timing is critical (wider control window than Methoxy). • Larger instar larvae are present. • You have an overlap of leps, thrips or leafminers. • As a preferred rotation partner with methoxyfenozide wherever possible.

Caterpillars: Seasonal but Dangerous

Helicoverpa Armigera (African Bollworm) Caterpillars in Flowers



Caterpillars are seasonal pests to the flowers but when in season result in major losses to the flower industry as one caterpillar can cause damage to more than one flower. In flowers there are different kinds of caterpillar species which include *Helicoverpa armigera* and *Spodoptera exigua* and thus it's important to know the exact pest that one has in their crop and out of these two, the *Helicoverpa* species is the notorious and listed as a notifiable pest in the European market.

Description

Helicoverpa armigera commonly known as African bollworm is the main caterpillar that infests flowers in green houses and outdoor ones. It is a pest of roses, carnations, hypericum, gypsophilla amongst other flowers. It is a moth with the larval stages referred to as caterpillar being the destructive stage. It is unique in that the moth lays its eggs singly on the roses and specifically on the softest parts of the crop. In roses the eggs are found on the flower buds and petals. The eggs are small, yellowish-white, ribbed and rather dome shaped. The egg period is two days after which it hatches to a larva- the caterpillar.

The caterpillar eats the eggshell to emerge after which it bolls making circular holes

through the petals only to feed from inside the flower.

The color of the African bollworm caterpillar varies from green to reddish brown; has three dark stripes that extend along the dorsal side and one yellow light stripe situated under the spiracles on the lateral side. When the caterpillar is disturbed, it lifts its head and curls it under the front of the body. If even more disturbed, it lets go and drops, rolling into a spiral. There are 6 instars or stages of the caterpillar in a larval period of 16 days and the damage to the crop increases with increase in size of the caterpillar. These caterpillars are cannibalistic. When a caterpillar matures it drops into the soil or the growth media to pupate. The pupa is shiny brown; about 16mm long with smooth surface and with two short parallel spines at the posterior tip of the body and the pupal period is 10 days at normal temperatures. The pupa is dormant and doesn't feed.

When it rains the pupa emerges into an adult called moth with the male moths being greenish in color and females being brownish. Generally the adult moth is fleshy, yellowish-brown with a dark speck, greyish irregular lines and a black kidney-shaped mark on the forewings. The hind wings are whitish with a

black patch along the outer margin. The moth is about 14 to 18mm long with a wingspan of 35 to 40mm. The moths are nocturnal and thus not easily seen unless one has a trapping system like pheromone traps specifically for the *Helicoverpa* or light traps or water traps. One female moth can lay around 3000 eggs in a lifespan of 10 days and thus one moth can cause an economically reputable damage to one greenhouse. These moths lay eggs closely soon after the rains start and thus its important to have an alert scouting system.

Why it's a challenge

The fact that the moth is nocturnal and its presence is mostly recognised by the presence of eggs on the flowers or live caterpillars on the flowers is a challenge. There is also insufficient knowledge of this pest as most people just associate the caterpillars to presence of butterflies they see around during the rainy season. Others kill the eggs by physically crushing them which leaves a chance of some hatching unnoticed and causing damage to the flowers. There is also a recorded incidence of this caterpillar having resistance to chemicals and some of these chemicals are expensive leading to increased cost of production. A pest can be well managed when its lifecycle is known and when the destructive stage is identified and controlled at the right time before the thresholds are reached. Its recommended to apply effective scouting methods like use of traps like pheromone, water or light traps as an early warning system.

Pest management

Caterpillars on roses and other crops have been and still are most commonly treated with synthetic chemical insecticides. While synthetic chemical insecticides have provided effective ways to protect crops, their indiscriminate use has abused them. Other means of crop protection, such as biological and microbial control, are being used to a much lesser extent, although there are many examples of highly successful use of predators and parasites.



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



Say goodbye to insect problems in vegetables. Radiant™120SC 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 insects. 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™120SC insecticide from Dow AgroSciences



Dow AgroSciences

Dow Chemicals East Africa Limited,
P.O. Box 2170-00606,
Nairobi, Kenya.
Cavendish Block, 1st Floor Suite 1B,
14Riverside off Riverside Drive.

Local Agent/Distributor:
Amiran Kenya Limited
Tel: +254 719 095000



Our Knowledge, Your Success.
www.amirankenya.com



Post harvest

Treatment of Cut Flowers



What are the best care rule for consumers?

Everybody knows the feeling when a beautiful bouquet or plant withers only too quickly. We feel your pain! To help you enjoy your flowers and plants longer, we have put together this list of care tips you can use at home. You will find that with little effort you can keep your flowers and plants beautiful even longer.

Cut Flowers

The first step is to buy high quality flowers. Pay attention to the quality of the stem; check for sturdiness, colour and for the absence of damage. Once this is cleared, choose a suitable vase and make sure it is clean. Do not use metal or antique crystal vases. If you have no other option; use an acid resistant liner. Fresh cold tap water is ideal for use here.

When removing the leaves, remove them below the rim of the vase and cut 2-5cm off the stem. Avoid damaging the stem and only remove thorns if it is absolutely necessary. Otherwise leave them intact. When making the requisite cuts; use a sharp, clean knife or secateurs. Cut the stems at 45degree angle. Make sure not to use unprotected or contaminated organic binding material. And once the flowers arrive, give any wilted once a chance to re-hydrate in their packaging. Place them as they are in water, in a cool, dark place for several hours. Fill the vase with enough water and check regularly if there is enough water in the vase.

Use the cut flower food availed and make sure to close correctly. Replacing vase water is not necessary if cut flower food is used; just top up with more water and flower food when the water has decreased to about 1/3 of the height. When topping up, use the same flower food as before.

If there are any wilted or damaged flowers, remove them promptly. When spraying; do not spray water on the buds and flowers as this increases the chance of fungal growth (Botrytis).

To cap it all off; flowers do not like draughts, direct sunlight, and proximity to a heater, smoke and being placed near ripening fruits. Keep this in mind.

Potted and bedding plants

As with cut flowers; your first move is to buy high quality plants. Pay attention to the quality of the flowers, the leaves and roots; and check for sturdiness, colour and the absence of damage.

Pay close attention to the activity of the plants e.g. still developing young leaves and flowers and when possible, use rain water for watering. Be sure to regularly remove old or damaged flowers and leaves. When spraying, avoid the buds and flowers, as this increases the chance of fungal growth (Botrytis). As was the case with flowers; plants do not like draughts, direct sunlight, proximity to a heater, smoke and being placed near ripening fruits. Avoid all these elements. Also be very picky with where you place them, so they can maintain their flowers and buds.

Consider that the growth process is slowed down at lower temperatures, meaning that your plants will stay beautiful for longer. Regulate them so they stay low. Ensure that there is enough water available for the plant, prevent excess of water at the bottom of the plant and while you are at it; avoid damaging the plant

What factors determine the vase life and shelf life?

Keeping flowers and plants looking their best the longer can be quite challenging. It helps to know what factors influence vase life and shelf life.



Temperature and humidity in particular, determine whether the cut flower will be delivered to the consumer in good condition after the harvest. Higher temperatures promote flower development while multiple and significant temperature changes promote the growth of the fungus Botrytis.

Cut flowers and plants come from all corners of the globe and they are shipped across huge distances. Climate control, good packaging, post-harvest treatment and speed are very important for keeping flowers and plants in top shape.



towards the light
or lean away from
gravity.

Disturbed nutrient balance

Energy is the driving force behind water intake the production of plant hormones and a natural development of the flower. Without energy, the flower would not be able to develop and it would wilt quicker.

to
become
turbid and
ultimately smelly.

The symptoms are:

- Limited bud and Flower development
- Colours have a “washed” faded look
- There is limited or no scent development
- There is limited flower development of the spike

Potted plants

Lack of water

To prevent this; ensure that there is enough water available for the plant. It is also vital that you prevent excess of water at the bottom of the plant.

In general bedding plants use a lot of water. The water in a pot or tray is limited. To help you with this, we have developed Chrysal leaf shine & seal. It prevents evaporation for a while without limiting growth. But be aware that watering remains necessary. Another option would be to create a water buffer with the Chrysal Aqua Pad or with the Chrysal Aquastick to extend the amount of days in store without re-watering.

Lack of light

A lot of plants are packed on a trolley or trays. Trolleys and trays will do fine for transport, but they rarely work well as a display or in the maintenance of plant quality.

Temperature

The range of pot and bedding plants is huge and they all have different needs. Some plants prefer temperatures between 12-180C, while others can survive between 2-120C. At lower temperatures, growth processes are slowed down; and this means flowers will stay beautiful for longer.

Be aware that some plants are sensitive to lower temperatures; however, keeping bedding plants as cool as possible is preferred.

Distribution time

Cut flowers and plants come from all corners of the globe and they are shipped across huge distances. Climate control, good packaging, post-harvest treatment and speed are very important for keeping flowers and plants in top shape.

Post-harvest treatments

Using the most suitable post-harvest treatment for each flower of plant type is needed to get the flowers through their distribution chain intact.

What are the three main post-harvest problems?

Cut Flowers

Disturbed water balance

This stems from blockage of the vascular bundles by air bubbles and micro-organisms and organic matter in contaminated vase water. The symptoms for this are limp flower petals and “bent-neck”.

Disturbed Plant growth regulator (PGRs) balance

In reaction to being cut from the plant, many flowers will produce either an overabundance or an insufficient amount of the plant growth regulators that were formerly naturally provided by the mother plant. The symptoms are:

- Flower petals shrivel up and the buds and leaves drop, which obviously shortens the life of your flowers
- The leaves become yellow, and flower development gets stunted
- Stem elongation is observable
- Geotropism occurs. Geotropism is growth in response to gravity. During horizontal transport the flower heads have a tendency to bend

From Page 37

Genetic lifespan of plants and cut flowers

Flower development is different for each plant type and cultivar. Providing less than optimal care will result in quicker wilting flowers for your consumer. Post-harvest treatments do not have the power to influence the genetic potential of the flower and plants but are formulated to try to achieve the maximum life possible.

Growing condition of the plant

Growing conditions, such as light, temperature, relative humidity, fertilization and crop protection have a market effect on the post-harvest quality.

Post-harvest conditions

Temperature and humidity in particular, determine whether the cut flower will be delivered to the consumer in good condition after the harvest. Higher temperatures promote flower development while multiple and significant temperature changes promote the growth of the fungus Botrytis.

Hygiene

Lack of hygiene promotes the development of micro-organisms, which causes the vase water

ACRECIO

My production, my stem length, my head size is a reflection of my ROOT system

- ACRECIO, the powerful & unique root activator

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).**



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 

The Ideal Flowerbox

HFA shifts to phase II of the Ideal Flowerbox project for sustainable, efficient shipments



After a successful two-month trial on the Nairobi, Africa to Amsterdam, Netherlands route, Holland Flower Alliance (HFA) has moved to phase II of the Ideal Flowerbox project.

With the support from Amsterdam Airport Schiphol, HFA is working towards implementing the flowerbox; a standardised box and pallet, to make the shipment of flowers more efficient and sustainable.

At the recently concluded Flower Logistics Africa 2018 held at Nairobi, Christo van der Meer, senior consultant supply chain innovation at Royal FloraHolland spoke on the subject, *'From flower box to new packaging concept: How cooperation leads to efficiency and sustainability in the floral logistics supply chain'*. He mentioned that in the last couple of years' discussion done at FLA for standardised boxes

has propelled them to introduce phase II of the Ideal Flowerbox.

Van der Meer, who led the pilot project task force and is preparing for the second phase of the trial, said, "The project started as a workshop, with many growers, airlines, box producers and freight forwarders attending, in a bid to find new packaging concepts and identify the issues in the current boxes."



During the trial-run, the project has increased the weight on airline pallets of flower shipments by 15 percent, resulting in a more efficient and sustainable process for transporting flowers – a key commodity for the Netherlands' economy.

"The shipment of flowers is an important activity at Amsterdam Airport Schiphol, so we are very supportive of the Ideal Flowerbox project and we are excited about the initial trial results showing how the box can improve sustainability in the supply chain," said Roos Bakker, director business development, Amsterdam Airport Schiphol, said

The Ideal Flowerbox project was launched to reduce unused space between flower boxes and pallets on shipments by introducing a standardised size, and to increase sustainability in the flower supply chain.

"We actively encourage innovation within the air cargo community, and we believe that collaboration with the HFA partners will continue to yield positive results for all stakeholders involved in the shipment of flowers," she said.

The project is funded by the HFA, which is an alliance between Amsterdam Airport Schiphol, KLM Cargo, and Royal FloraHolland.

"The results show that with the use of the Ideal Flowerbox we are able to optimise the aircraft's load factor, which is beneficial for a sustainable and efficient operation," van der Meer said.

Pending a successful second phase of the trial, the HFA will evaluate the results and consider implementing the Ideal Flowerbox on more flower shipment routes in 2019.

Oserian named world's best grower of cut flowers at the AIPH Awards



Oserian Development Company Limited, one of Kenya's largest growers and exporters of cut flowers, has started the year on a high note by winning a coveted prize at this year's International Grower of the Year awards held in Germany. Oserian was the only African grower nominated for recognition at this year's awards ceremony.

The International Grower of the Year Awards, AIPH, an annual fete organized by the International Association of Horticultural Producers, and now in its tenth year, seeks to celebrate excellence and the best practices in flower production. Lifting the highest accolade in the cut flower category is an endorsement of Oserian's huge investment in varieties that have increasingly received kudos from customers around the world in what is an increasingly dynamic market with an insatiable appetite for new niche varieties.

To meet this demand, Oserian has developed a diverse portfolio across the 200 hectares it dedicates to cut flower production. With over 100 hectares take up, rose production is still dominant. But the numerous supporting crops such as Statice, Spray Carnations,

Gypsophila, Sunflowers, Eucalyptus, and a wide range of green fillers enable Oserian to create a vast assortment of bouquets. Key to their strategy, is identifying roses that benefit from their vast 50 hectares of geothermally heated greenhouses. These impressive structures are home to their various Collections – their wide range of Garden type roses, their Lady Collection, the Park Collection and sure one-of rose types as the striking Cappuccino.

To maintain the highest standards in production, the Company has adopted a 'champions by nature' approach to flower growing. The Company utilizes the integrated pest management (IPM) system, hydroponics to reduce water and fertilizer consumption and has the world's largest geothermal heating project for maintaining temperature in its greenhouses and for injecting vast amounts of carbon dioxide (CO₂) needed to stimulate healthy, strong plant growth.

"We are proud that our investment in innovation and responsible flower growing mechanisms continue to be recognized on the global stage. In an increasingly

"To maintain the highest standards in production, the Company has adopted a 'champions by nature' approach to flower growing. The Company utilizes the integrated pest management (IPM) system, hydroponics to reduce water and fertilizer consumption and has the world's largest geothermal heating project for maintaining temperature in its greenhouses and for injecting vast amounts of carbon dioxide (CO₂) needed to stimulate healthy, strong plant growth."

competitive and dynamic market, our cut flowers have excited markets and positioned us as frontrunners in sustainable flower production" said Mary Kinyua the Director of HR & Administration at Oserian. This year's competition which drew participants from across the world saw Oserian take pride of place alongside producers in other categories from China, Belgium and Poland.

"The 2019 IGOTY Awards provide an opportunity to put a spotlight on the best in our industry, showing the world the quality businesses that exist," Bernard Oosterom, President of AIPH said.

Ms. Kinyua says the win gives the Company fresh impetus to respond to diverse market needs while growing its portfolio. "As demand for cut flowers burgeons and customer preferences change; we continue to position our business to respond to these dynamics while remaining true to our philosophy of having sustainable flowers that are ethically grown."

Last year, Oserian won three awards in the Federation of Kenya Employers Awards for innovation and productivity, responsible business conduct and inclusivity and diversity in what points to the Company's commitment to people and planet, through sustainable flower growing practices, investment in staff welfare and ethical production of world class flowers.

C

Christine Karambu,

A Woman of Virtue

Concisely describe Christine Karambu

Christine is an agronomist and administrator with vast experience in the floriculture sector for over 18 years. The JKUAT graduate in horticulture who later on studied Business Administration, majoring in HR at KEMU holds several certifications gained during her professional path. She holds, among others FACTS; an international Fertilizer Recommendation course offered by BASIS and Women in Leadership by Strathmore University. Over the years, she has progressed through the ranks from a junior supervisor to her current level of senior management.

What spurred you into growing? Any role model who inspired you?

In all honesty, I never thought this would be my career path. I grew up in a family that did large scale farming: my parents retired from their professions to exclusively focus on farming. I did not have interest then, until I joined high school and started feeling the touch. My interest grew as I watched my parents address and train students from colleges and other institutions of higher learning. Through the results of my hard work, as well as the multiple challenges I faced on my journey, my inspiration grew exponentially, to the point where I firmly knew my interest lay in the industry.

Kindly take us through your journey as a grower to your current position.

I have been in the floriculture sector for a total of 18 years. As you can see, I'm no spring chicken in the field. After college, I began my journey in (the former) Kijabe Limited as a supervisor and then joined 3 other companies as I rose through the ranks. I'm presently at the Oserian Development Company, as a senior grower, and I've been here for the last four years and counting. In addition to this, I over-see the company's Research and Development unit.

Briefly discuss the challenges you go through daily?

What would you point out as your strongest attribute that has made you succeed? How do you rise up to the greatest challenge that your job presents?

Growing presents different challenges every day: the weather patterns are unpredictable, pests and diseases are always piling on pressure and the market trends are typically volatile.

Early on, I struggled with numerous, varied challenges. I'll admit to that much. But rather than get cowed and give up, I chose to adapt and grow. This helped me internalize one of my most valuable lessons: every challenge has a solution; you just have to think outside the box sometimes. I have learned the value of self-motivation, constant research to stay ahead, lots of consultation and taking one day at a time. I have learned that each day, at the very least, presents a learning opportunity or two. My job also requires that I motivate others; I really have no window for dullness or giving up. For the sake of my staff and the projects I am at the helm of, I have to be perpetually motivated. To lead properly, I have to actually listen, as opposed to just hearing things.

Describe how you manage expectations, as well as go about goal-setting for your staff.

My current mantra is "Employee First, Consumer Second." I know this sounds unconventional, but I can attest to its effectiveness. By motivating my employees and making sure they view their jobs with pride and love, I automatically give them the right tools and information to ensure the customer gets the best service and the best product. It really is killing two birds with one well-aimed stone.



From Page 42

I also believe in keeping everyone informed of expectations well in advance. In addition to keeping the team sufficiently mentally prepared, it helps them link up better. I believe in opening up avenues of easy communication on new ideas, any complaints and general, regular interaction.

As a woman in a position of leadership, have you felt that at times, the scrutiny was much more intense just by virtue of being a woman? How do you respond to this?

Yes, I have experienced this, but this was largely confined in the first few years of my career. Early on, in addition to the sector hardly having any women in positions of authority; the landscape was such, that the bulk of professionals plying their trade in the sector were not college/university-educated professionals. They were mostly seasoned veterans who had spent years learning on the job. They built competence by virtue of grinding day after day, year after year. But they lacked the technical coaching imparted upon protégés by the college/university system. So when the likes of myself came in, we were somewhat of a foreign breed. And being a woman, in addition to my collegiate roots, must have compounded things. But by and by as I proved my competence, things became easier and ample professional regard was established.

Today, it really is smooth sailing for the most part. But if there's scrutiny of any nature or form, I fall back on the time-tested strategy of using my work results to tell my story and prove my competence. It hasn't failed me once. Using the scrutiny as a motivational element, in those early days, made me stronger and more durable, and I have learned to smile every time I see challenges coming my way.

Kenya is a major player in the global flower industry; what are the most prevalent challenges that get in the way of building the flower sector? Do you get the notion that at times, the Kenyan government does



“The floriculture sector is a super-earner for the country. It’s one of Kenya’s most potent Forex earners and without it; the economy would surely take a hit. As it is, we are engaged in running battles with newly emerging stubborn pests and diseases, an unpredictable marketplace for our products and recurrent freight issues among other things.”

not accord the industry with the requisite seriousness it deserves?

The sector is faced with very diverse challenges, with the most recent, and prevalent ones being the fertilizer shortages that are caused by the government inspections; the stringent market regulations and restrictions on pesticides; the unpredictable, volatile market returns; numerous taxations by the government; increased costs of inputs; newly emerging pests and diseases; unusual pest and disease life cycles, and seasonality; increasingly unpredictable weather patterns and rising freight costs. As you can see, the deck is presently pretty stacked against the floriculture sector. Still, there are ways to mitigate these challenges:

The sector, and the firms within it, needs to look for lean and diverse solutions so as to cut down on wastefulness and avert the

diminishing returns. There is a necessity to prioritize efficiency in the sector, as this is the only sure way to keep profitability up. And if anything, the entire field of agriculture is already struggling badly with waste. Even taking the financial bottom-line out of the equation; the time is really nigh to cut down on waste and wastefulness as a whole.

Regarding the government; I'll give a generic but comprehensive answer. The government needs to get involved more. The lawmakers need to look at things from our perspective and then revise some of their recent stipulations. Let's examine one example: The floriculture sector is a super-earner here. It's one of Kenya's most potent Forex earners and without it; the economy would suffer. As it is, we are engaged in running battles with newly emerging stubborn pests and diseases, an unpredictable marketplace for our products and recurrent freight issues among other

things. But somehow, the government decided the next logical step was to raise taxes on floriculture inputs and intensify pesticide inspections. You would think they'd do the opposite to help an economy-friendly sector out in these trying times. It's a bit like biting the hand that feeds you. The new taxes on inputs need revision and the regulations that are affecting the sector need similar treatment.

What makes your farm's produce unique and separates it from the rest?

Oserian is growing very unique flowers that not many other farms can manage due to the present disease pressure. This is because



we have the advantage of having geothermal heating and carbon dioxide systems set up, which allows the farm the luxury to successfully grow very sensitive, uniquely shaped flowers. We also firmly believe in 'Quality to Quantity', both in length and head size.

What are some of your choice teamwork-enhancing strategies?

I'm a big believer in motivation, I love to motivate because I feel you achieve the highest quality of work from a motivated team.

I love having open discussions with my team as it presents a wonderful opportunity to actively brainstorm and perhaps learn of things that may not have been too familiar. A positive attitude is a must, and I make sure to touch on it in most meetings we have. Of course, I make sure to lead by example too. Last but not least, I'm very insistent on efficiency. Like I said the floriculture sector is having significant issues with inefficiency and wastage, which is cutting into profits and overall affecting the industry negatively. Efficiency needs to be promoted from the very lowest level to ensure the best possible environment for success.

Do you have any personal projections that you would like to share on the future?

The flower sector will still be booming. But I need to make one thing clear: not everyone will survive. There will be those who fall by the wayside, or pull out and move into other avenues of business. Already, we are seeing some previously-major players either greatly downsizing their projects or throwing in the towel altogether and seeking business elsewhere.

The ones who survive will be those who

are ready to embrace change, work on lean structures, aggressively promote efficiency and have an open mind that is malleable enough to welcome diversification. And if you look at my answers to this interview, you will realize I've made an effort to bring up these elements as often as possible.

What is, in your informed opinion, the most potent challenge that the flower farmer faces today? How would he or she go about mitigating this particular challenge?

The most potent challenge is the rising costs of farm inputs, and the drawbacks to this one are especially magnified when you offset it against the steadily diminishing returns. The government's new taxation regime on farm inputs isn't helping either. As for mitigation, the first step needs to be the farmer's own: have lean structures in place, make your projects as efficient as possible and be smart in how you invest in your farm(s). There's also a case to be made that we farmers need to be more vocal as we make our plea to the government to overturn their new taxation regimen on inputs, as well as scaling down the all too intensive pesticide checks that are getting in the way of good business.

There are some flower farms that insist on gender equality, with regard to employment opportunities, and this is perhaps easier to apply seeing as how women have a natural affinity for the flower world. Do you have a gender equality dynamic going on in your niche?

We like this idea. However, there are a few issues that compound the integration of this: for one, there are very few women seeking to move up the flower industry ladder. In fact, the industry does not boast of too many trained women professionals, and this makes it difficult to properly implement such a dynamic. Recently, there has been a steadier stream of women professionals coming in, which is encouraging, but there is still a long way to go



before the number of women professionals gets to that point where it rivals that of men, thus making it possible for the gender equality dynamic to be integrated. Still, I have faith that we will get there.

What is your preferred style of working or management? Does it in any way empower or affect the daily output of your team?

I have a very hands-on approach to leadership and management. Rather than just be a passive overseer, I like to dive in and get my hands dirty. I believe this not only makes me better acquainted with my staff members; it makes it possible for them to relate to me with more ease. I have an open door policy, and everybody is welcome to walk in and give their two cents. We have suggestion boxes where staff members can reach out to management and pose their queries, and we hold both weekly and monthly meetings. We also have what we call need-basis meetings: these are impromptu meetings that are held whenever something comes up. Meetings can last anywhere from 30 minutes to 2 hours... as long as it takes for the subject matter to be

fleshed out exhaustively.

Briefly detail how you maintain balance in your life

I try my level best to complete my daily work duties within the day and in so doing, avoid taking work home. I firmly believe that taking work home just gets in the way of your family responsibilities, something which makes it difficult to properly bond with your loved ones as well as recharge amply. Family time is vital; I make sure to spend sufficient time with my family and gauge their psyche. I do a lot of community work as well to help me unwind and get in touch with society. I'm a big believer in alone-time: I make sure to frequently spend time alone with my thoughts and meditate. This helps me relax and be mentally prepared for the rigors of work, come work time.

A few words of advice to young girls

Young girls and youths, now more than ever, need to practice self-control and cull the desire for short-term satisfaction. It makes more sense, to draw up long term goals and stick with them.

It is necessary to build self-confidence, as this will be the biggest tool in helping you climb the corporate ladder. The most effective way to do this, in my experience, is to carefully evaluate the mistakes you make and seek to grow stronger and wiser from them. It pays to be hands-on; those that work under you will acknowledge this and their respect for you will grow tenfold. Ensure to always give credit where it is due. If you have positive feedback to give, give it promptly; likewise, if you have negative feedback to give, do not be afraid to dish it out. You can't oversee a professional setup without acknowledging both sides. This is how a leader functions; with purpose, poise, vision and balance.

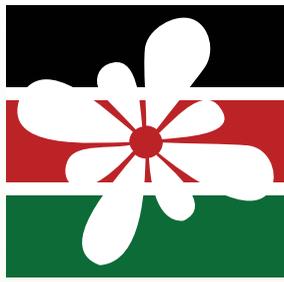
What legacy would you like to leave behind?

I want to be remembered as one of the significant women leaders who pioneered the flower industry. I want to be known as a significant beacon that drew in young women into the flower industry, and showed them that it is indeed possible to forge a career in the industry. In this regard, I would love to be remembered in a mentor's capacity. I want to be one of those people who helped raise the technological standard, so that it matched up to the steady morphing of pests and diseases into more elusive, harder entities.

Give your final comments

Self-confidence is vital. It is important that you own your decisions. If I had to start from scratch again; I would largely make the same decisions I have made over the years, eliminating the few mistakes of course, and I would eventually wind up where I presently am.

It helps to believe in everybody. Try your level best to focus on the positives of others and not so much on the negatives. I believe that every single person has potential. Everyone deserves a fair shake, and this is something that needs to be upheld with more regularity.



IFTTEX 2019

INTERNATIONAL FLOWER TRADE EXPO

Wednesday June 5 - Friday June 7
Oshwal Center • Nairobi • Kenya



Kenya's Flower Industry Trade Fair



www.iftex.org

Sivanto Prime Launched



Ms. Eunice Wangui Waithaka, Grower Marketing-Flowers and Industrial crops, the main speaker during the launch.

Growers preparing their thrips spray programs will have many options including Sivanto prime from Bayer CropScience and distributed by Elgon Kenya Ltd in the region. It was Pomp and dance as growers welcomed the latest insecticide from Bayer CropScience for the control of sucking insects. The new butenolide chemistry makes Sivanto Prime systemic insecticide that can be used to control wide range of sucking insects, such as aphids, whiteflies, thrips and other important pests.

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).

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 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 cessation in insects.

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.

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.

Pictorial: Launch of Sivanto Prime



Mr. Joseph Ngunju, Head Sales Management -Floriculture Flowers



A tete-a- tete with Mr. John Kanyingi



Ms. Isabella Nyandieka, Customer Marketing Bayer speaking to the growers



Mr. Joseph Kibaki Miano, Head of Regulatory and Development speaking to the growers.



One of the growers participating in the discussion



Mr. Lucas Choi of Flora Ola shares a light moment with Bayer Staff



Mr. John Kanyingi, Head of Sales-Kenya addressing growers



Part of the Bayer Staff in attendance

Dümmen Orange New Timau Show-house ideal for high altitude rose growers

The Timau / Nanyuki region in Kenya boasts of refreshing natural surroundings, with undulating hills and a beautiful backdrop of Mount Kenya to its South. The area sits at about 2,550m asl and is home to a good number of well established high altitude rose growers. It is here that leading breeder and propagator Dümmen Orange have established their new showhouse, within the confines of Timaflo's latest farm, Altima. Altima farm was established in 2018 and is yet another addition to the Timaflo portfolio which is built on growing top quality roses. The name Altima is a contraction of altitude and Timaflo.

Time Saver

Before unveiling of the new Dümmen Orange showhouse, high altitude rose growers had to conduct trials at their own farms first before settling on these varieties that would best suit their respective commercial strategies. The new showhouse sits ideally as a time saver for a grower who wishes to find out the growth characteristics of any rose variety before-hand.

Longer stems / bigger heads

The showhouse enables Dümmen Orange



and Jan Spek Rozen to display the best characteristics of their premium varieties. With high altitude, the rose varieties displayed have larger than average heads, longer stems, better colors and higher petal count.

Open Day

A good number of highland rose growers from farms within the Nanyuki region and

beyond converged at the new showhouse for two open days. It was evident from the various reactions from visiting growers that the new showhouse could be a potential industry game changer in many ways. The showcase had more than 100 rose varieties in full bloom, which also included roses from other breeders represented by Dümmen Orange in Africa, i.e. Jan Spek Rozen, G Rose, Esmeralda Breeding.

Warming Up For Hortiflora Trade Fair Ethiopia

In a little more than 2 months the next edition of the international horticulture trade fair "HortiFlora Expo" will be held in the capital of Ethiopia. In the convention center of Addis Ababa, the so called "Millennium Hall", 10.000 m²'s exhibit space is being prepared for Ethiopia's show case of the national flower, vegetable and fruit industries.

All-important Ethiopian growers will participate in this important trade event. In addition a lot of companies, from both

inside and outside Ethiopia, that supply and assist the growers in Ethiopia to increase and improve production, will be present though exhibiting and complete the range of products and services that such exhibition should include.

International promotion to attract buyers and investors have been launched on a worldwide scale and it is therefore expected that visitors will attend from all over the world. Ethiopia is a large exporter of flowers, vegetable and fruits, and has been for over a decade. It is therefore an excellent opportunity for international fresh

flower and fresh produce traders to be present and meet with the growers of the products that they (in many cases) already buy from them.

The Ethiopian Horticulture Producers & Exporters Association EHPEA is organizing a launch of the exhibition in the Addis Ababa Hilton hotel. The trade fair can be attended free of charge by buyers of flowers, vegetables and fruits.

Expanded Summer Flower Assortment Kenya: Aquila Goes into Bouquets

Because of the high labor costs and low availability of workers in Europe, Kenyan flower grower Aquila decided to go into bouquets. This farm, that primarily grows roses, started growing summer flowers two years ago and expanded their assortment over the last year. This enables them to make the required bouquets on source.

Why summer flowers?

Aquila has been growing roses on 30 ha in Naivasha for several years now, and two years ago, they expanded into summer flowers. There are several reasons why they went into summer flowers, explains owner Ranjit Singh Amrit. "First of all, expanding in roses is expensive as we need to build another greenhouse. Also, as we have an earthquake line running through the property, building a



greenhouse on it is not such a wise choice. Secondly, we trialed several summer flowers first and the reactions were positive. Finally, we saw that the demand for mono lines stabilized and the demand for bouquets increased, particularly for the bouquets made on source."

Bouquets made on source

The demand for bouquets made on source are increasing because of high labor costs and low availability of workers in Europe, explains

Amrit. "As a result, as our labor costs are lower, they are asking for bouquets made on source."

Assortment

Aquila grows their summer flowers outdoors and their assortment consists of seven varieties, grown on 4 ha.

Their spray carnations take up the most space and are grown on 3 ha.

The remaining acreage is used for their sunflower, gypsophila, statice, solidago, lisianthus and rosemary.

All Fair Trade

Aquila mostly deals with retailers, and as they require Fair Trade grown flowers more often, the Fair Trade certification for all their flowers is a big advantage for them. "We can make Fair Trade bouquets and this is valued by the retailers."

United Selections

United Selections Holds their Open Days in Nakuru, Kenya 2019

United Selections kicked off the year by hosting their first open day in Nakuru at their Ngata Facility.

The event held on 10th and 11th January, 2019 was well attended with several of their varieties getting positive feedback from the clients.

Some of these varieties included well established varieties in the market such as Madam Red, Adalonia and New Orleans. There was also good feedback from recently introduced varieties such as Red Lion, Devoted, Madam Cerise, and Yellow Cab.

United Selections holds this event every year to get their clients involved in developing varieties that are suitable for everyone. Furthermore, it's also an opportunity for



them to introduce new varieties and to have personal interactions with their client base. During this particular edition, their new additions were well received and the company is optimistic as they continue to contribute to breeding a colourful future for everyone in the flower industry.

New Assortment 2019

During the open day, the following new varieties were unveiled:

- Selina – bi-colour purple Suitable for various

altitudes

- Mardi Gras – A lavender suitable for a variety of altitudes
- Fairytale – Suitable dark Cerise for low and medium
- Fey – A peach variety suitable for low and medium altitude farms

To get their entire digital assortment poster for free, send a request to marketing@united-selections.com

Boost to Ornamentals From Nitrogen Switch

Switching to a different form of applied nitrogen could increase grower profits, improve plant physiology and raise plants' stress tolerance, according to new research

By Adrian Bell

The alternative nitrogen – a chemically stabilised form of urea – would also optimise resource use while helping to reduce the environmental impact of fertiliser manufacture, according to British firm Levery Crop Science, which carried out the study on a range of containerised ornamentals.

“Plant development altered favourably and improved several commercial attributes, such as more branches and flowers, while raising tolerance to stress caused by drought or transplantation,” says David Marks, one of the study’s co-authors.

The findings, published in the *Journal of Horticulture and Postharvest Research*, suggest growers could make more efficient use of nitrogen fertiliser and produce healthier, more desirable plants by applying it in a more accessible form.

“Mineral nitrogen – such as manufactured ammonium nitrate – has long been the ‘go to’ method of soil fertilisation,” says David, who is managing director of Levery Crop Science. “But it’s now understood that plants also make use of available organic nitrogen, rather than being totally reliant on inorganic nitrogen, and with this knowledge we have a renewed enthusiasm for improving fertiliser usage.

“Inorganic nitrogen production is not only inefficient but also environmentally costly. It produces greenhouse gases during manufacture and can have adverse effects on water systems after application,” he explains.

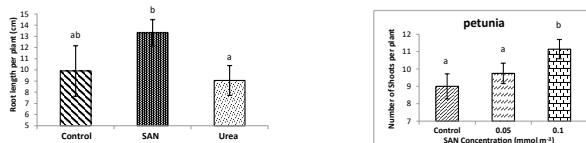
“On the other hand, urea – in common use as a primary nitrogen source – is soluble and susceptible to breakdown by an enzyme found in almost all soils,” he points out. “But one option is to coat urea granules with sulphur or polyurethane, a technique already proven.”

Instead, the trio of researchers focused their work on an alternative, chemical method of stabilising urea-sourced amine in soil, which Levery has itself developed. The technology (known as LimiN) has already shown its ability to increase tuber yield in potato crops.

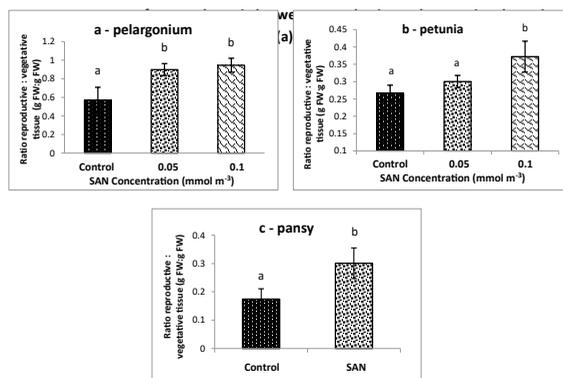
“We were especially keen to investigate how ornamentals access and use nitrogen for improved hardiness and flower production,” says co-author Dr Sally Wilkinson, “particularly as we know that different nitrogen forms affect plant phenotype – the characteristics of a plant that are down to its environment, rather than its genetics.”

Boost to ornamentals from nitrogen switch – Levery CropScience

Effect of fertiliser N-form on root length of marigold plants. Effect of fertiliser N-form on shoot number in petunia.



Effect of fertiliser N



Pelargonium, petunia, pansy and French marigold were the four species used for the research.

Levery’s stabilised amine nitrogen (SAN) was compared with both standard urea and an industry standard NPK (IS), with amounts of all three carefully calculated to provide the plant with identical amounts of N. Adjustments were also made across the three treatments to ensure consistent access to sufficient micronutrients for the duration of the study.

Measurements were taken for leaf chlorophyll content; leaf length, width and area; lateral shoot count; floral bud and flower numbers; and root length. Tissue weights were also recorded at the end of the experiment.

In all four species, SAN increased the chlorophyll content compared to IS controls, while SAN increased leaf size in pelargonium and pansy. SAN increased branching in pelargonium, and shoot numbers in petunia, while marigolds displayed increased root length.

“Perhaps the most striking effect of SAN was in flower and floral bud

numbers,” highlights Sally.

“SAN fertilisation increased numbers per plant by up to 130 per cent compared to IS controls in pelargonium, pansy and petunia, and by up to 40 per cent compared to urea in marigold.

“Meanwhile, reproductive tissue weight increased in SAN-treated plants, with pelargonium showing up to twice as much tissue, and petunia 25 per cent more than controls. In pansies, SAN increased flower weight by more than 100 per cent.”

Stabilised amine nitrogen improves a number of characteristics in ornamental plants, says David.

“Firstly, perhaps most importantly, SAN improves retail aesthetics. Nursery owners will recognise immediately the increased value in plants with more branches, more flowers and, thanks to more chlorophyll, greener leaves.

“But growers will also value plants with more roots, branches and chlorophyll for their reduced susceptibility to stress caused by transplantation and extremes of temperature or soil moisture.”

Behind the science, David says, SAN’s effectiveness is down to two main factors: loss and breakdown of standard nitrogen following application, and the greater availability of SAN to the plant.

“SAN is an organic nitrogen form, which places a lower energy and carbon demand on the plant,” he says. “That frees up more resource for photosynthesis, leaf growth, branching and root growth, and ultimately for reproductive development – the flowers.

“It’s a simple finding, but with important applications for many horticultural and agricultural crops reliant on applied nitrogen. Stabilised amine provides nitrogen with a lower environmental cost, while equipping plants to cope better with what’s expected to be an increasingly stressful climate.”

The full paper is published in Volume 2, issue 1 of the Journal of Horticulture and Postharvest Research.

About Levery Crop Science

Founded in 2011, Levery Crop Science is a British company that seeks to develop and commercialise sustainable agricultural products. Its definition of a sustainable product is one that improves crop production, reduces waste, increases yield and ultimately contributes to farmers’ profitability. Levery’s products are sold and used in countries around the world.



SAN’s effects on appearance and flower development in pelargoniums, compared to the IS standard, are clearly visible. The leftmost plant has been treated with industry standard nitrogen, while the middle and right plants received different concentrations of SAN.



These pelargoniums were all treated with the same amount of nitrogen, but in different forms. From left to right the image depicts two 5L/ha SAN-treated plants, two 2.5L/ha SAN-treated plants, and two industry standard fertiliser-treated plants.



SAN’s effect in petunia. The left-hand plant is the industry standard control, while the right-hand plant has received 5L/ha of SAN.



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA- Flowers-Rumuruti	Roses	Rumuruti	Shailesh	0722 203750	shailesh.ra@aaagrowers.co.ke
AAA- Flowers -Chui Farm	Roses	Timau	Shailesh	0722 203750	shailesh.ra@aaagrowers.co.ke
Farm-Sunripe		Naivasha	Antony	0711827785	naivasha@sunripe.co.ke
Africala	Cuttings	Eldoret	Meindert	-	meindert@africala.com
Africa Blooms	Roses	Salagaa	Ravindra Chaudhari	0723159076	ravindra.chaudhari@xflora.net
African Kenya Ltd	Hypericum	Naivasha	Charles Mwangi	-	-
Van Kleef Kenya Ltd	Roses		Judith Zuurbier		roses@vankleef.nl
Aquila Development Co	Roses	Naivasha	Abhay Marathe	0729776656	gm@aquilaflowers.com
Balaji Flowers	Roses	Olkalou	Vijay	-	-
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@maufloora.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	Roses	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms	Roses	Nakuru	Shivaji Wagh	0720895911	shivaniket@yahoo.com
Carzan (K) Ltd	Summer flowers-	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
Chestnut	Flowers	Mt. Kenya	Gabriel Kiai	-	gabriel.kiai@aaagrowers.co.ke
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
Dummen Orange	Flowers Breeders	Naivasha	Steve Outram	0733 609863	s.outram@dummenorange.com
Elbur flora- kimman	Roses	Nakuru	Daniel Moge	0721734104	kimmanexp@gmail.com
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Equinox	Flowers	Nanyuki	Harry Kruger	0707266956	harry@equinoxflowers.com
Everest Flowers Ltd	Flowers	Mt. Kenya	Peter Njagi	-	-
Everflora Ltd.	Flowers	Thika	Bipin Patel	0735873798	everflora@dmbgroup.com
Evergreen Crops		Nairobi	Arun Singh	0721941009	arun@evergreencrops.com
Exotic Peninah	Roses/ Carnations	Athiriver	Dan	0734626942	dan@exoticfields.com
Fairy Flowers	Flowers	Limuru	Sylvester	0753444237	sylvesterkahoro@yahoo.com
Fides Kenya Ltd	Cuttings	Embu	Bernard Marindany	0726 366 752	B.Marindany@DummenOrange.com
Finlays -Tarakwet	Flowers	Kericho	Lelon Chepkwony		
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	Japheth Langat	0722 863527	japheth.langat@finlays.co.ke
Fontana Ltd-Salgaa	Roses	Salgaa	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd - Akina farm	Roses	Njoro	Mahindra Patil	0798254199	--
Fontana Ltd - Ayana Farm	Roses	Mau Narok	Gideon Maina	0721 178974	gideon@fontana.co.ke
Flamingo Holdings Farm	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@flamingo.net
Flamingo Holdings-Kingfisher Farm	Flowers	Naivasha	Mr. Isaac Karanja	0720473502	kingfishercarnations@flamingo.net
Flamingo Holdings- Kingfisher Farm	Flowers	Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@flamingo.net
Flamingo Holdings-Siraji Farm	Carnations, Roses	Nanyuki	Peris Muturi	-	-
Flower City	Flowers	Nairobi	Pradeep Kumar	0790309600	info@flowercitykenyaltd.com
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
Florensis Ltd	Cuttings	Naivasha	Anne Marie		anemarie@florensis.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Florenza Ltd	Roses	Solai	Yogeesh	0737453768	farm.florenza@megasingroup.com
Fresh Gold Flowers Ltd	Flowers	Mt. Kenya	John Karimi	0721622294	karimi@freshgolkenya.co.ke
Gatoka Roses	Roses	Thika	Herman Njuguna	0728 854 844	info@gatokaflowers.com
Golden Tulip	Roses	Olkalao	Umesh Choudhery	0739729658	umesh@bth.co.ke
Gorge Farm	Vegetables	Naivasha	Patrick Mulumu	0722498267	pmulumu@vegpro-group.com
Greenland	Vegetables	Nairobi	David Thurania	0780 666 810	jenem@greenland.co.ke
Groove	Flowers	Naivasha	John Ngoni	0724448601	grovekenya@gmail.com
Harvest / Manjo Plants	Roses	Olkalao	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Harvest Ltd	Roses	Athiriver	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Harvest Flowers Group	Roses	Murunguru	Paul Salim	0722 470 717	paul.salim@harvestflowers.com
Highland plantations	Cuttings & Herbs	Olkalau			production@highlandplants.co.ke
Imani Flowers	Summer Flowers	Nakuru	Raphael Otieno	0792302466	raphael@imaniflowers.co.ke
Interplant Roses	Roses	Naivasha	Gavin Mouritzen	0733220333	info@interplantea.co.ke
Isinya	Flowers	Isinya	Rajesh	-	pm@isinyaroses.com
Karen Roses	Flowers	Nairobi	Peter Mutinda	0723353414	pmutinda@karenroses.com
Kariki Ltd- Thika	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 - Naivasha	Hypericum	Naivasha	Peter Kamwaro	0721758644	hamwe_fm@kariki.biz
Kariki Ltd - Molo	Fowers	Molo	Joseph Juma	0725643942	production_fm@kudenga.co.ke
Kenflora Limited		Kiambu/ Limuru	Abdul Aleem	0722311468	info@kenflora.com
Kentalya	Cuttings	Naivasha	Linnet	0733549773	lynette@kentalya.com
KHE Nairobi	Vegetables	Nairobi	Juliah Mwakisha	0720 901 224	grp.agronomy@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	Prabakaran	0739906040	prabakaran@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
Kongoni- Galaxy	Roses	Naivasha	Kiran Nangare	0787787544	kiran@vegpro-group.com
Lamorna Ltd	Roses	Naivasha	Mureithi	0722238474	admin@lamornaflowers.com
Lathyflora		Limuru	Mbauni John	0721798710	mbaunij@yahoo.com
Lauren International	Flowers	Thika	Chris Ogutu/Carlos	0722783598	laurenflowers@accesskenya.co.ke
Laurel Investment	Roses	Nakuru	Rajendra Jadhav	0738359459	rajendra.laurel@bht.co.ke
Livewire	Hypericum	Naivasha	Esau Onyango	0728606878	management@livewire.co.ke
Lolomarik	Roses	Nanyuki	Topper Murry	0715 727991	topper@lolomarik.com
Longonot Horticulture		Naivasha	Chandu	0724639898	chandrakant.bache@vegpro-group.com
Magana	Roses	Nairobi	Nicholas Ambanya	0732 779 987	ceo@maganaflores.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
Milenium Growers	Summer Flowers	-	Sushant Wankara	0731316000	sushant@marvelgreens.com
Mt. Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395,	bob@mtelgon.com
Mwanzi Flowers Ltd	Roses	Rumuruti	Ram	0722265845	-
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	Christine Karambu	0702350689	christine.karambu@oserial.com
Panda Flowers	Roses	Naivasha	Geoffrey Kanyari		
Panocol International	Roses	Eldoret	Mr. Paul Wekesa	0722748298	paul.wekesa@panocol.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	Sanjiv Dogra	0737576966	pjdaveflowers@wananchi.com
PJ Flora	Flowers	Isinya	Palani Muthiah	0752607651	muthiah.palani1971@gmail.com



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
PJ Flowers Ltd	Roses	Isinya	Sanjiv	0737576966	sanjiv@pjdave.com
PJ Flora	Roses	-	Santos Kulkarni	0738990521	santosh@pjdave.com
Kentalya	Cuttings	Naivasha	-	-	-
Plantech Kenya Ltd	Propagators	Naivasha	Idan Salvy	0702187105	idan@plantechkenya.com
Porini Flowers	Roses	Molo	Vivek Sharma	0731040498	gm@poriniflowers.com
Primarosa Flowers Ltd	Roses	Oljororok	Shantaram	0701464049	production.p2@primarosaflowers.com
Rain Forest Farmlands Ltd	Roses	Naivasha	Mr. George Onguko	0725762099	george@durofarms.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	Aravind	0786157344	gm.roseto@megaspingroup.com
Savannah international	Geranium	Naivasha	Ignatius lukulu	0728424902	i.lukulu@savanna-international.com
Selecta Kenya		Thika	Robert Khamala	0727 467 464	r.khamala@selectakenya.com
Sojanmi Spring Fields	Roses	Njoro	Ashesh Mishra	0792217088	ashesh@xflora.net
Schreus	Roses	Naivasha	Haiko Backer	-	-
Shades Horticulture	Flowers	Isinya	Ashutosh Mishra	0722972018	info@shadeshorticulture.com
Shalimar Flowers	Flowers	Naivasha	Dinka	-	-
Sian Roses - Maasai Flowers	Flowers	Isinya	Andrew Tubei	0722728364	atubei@sianroses.co.ke
Sian Roses - Agriflora (K) Ltd	Roses	Nakuru	Charles Mulemba	-	cmulemba@sianroses.co.ke
Sian Roses - Equator Roses	Roses	Nakuru	Nehemiah Kangogo	0725848910	nkangogo@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	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
Terrasol	-	Nairobi	Jacques	0705 519 633	jacques@pvdhaak.nl
Timaflo Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflo.com
Transebel	Flowers	Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke
Tulaga Flowers	Roses	Naivasha	Steve Alai	0722659280	tulagaflower@africaonline.co.ke
Tulaga Flowers	Herbs	Rumuruti	Gideon Kariuki	0701153844	tulagamarmant@africaonline.co.ke
Uhuru Flowers	Flowers	Nanyuki	Ivan Freeman	0713889574	ivan@uhuruflowers.co.ke
Utee Estate	Flowers	Nairobi	Mane	0737 513 844	mane.uel@btfgroup.com
United Selections	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	Joseph Kariuki	0728 093 379	joseph.kariuki@valentinegrowers.com
Van Kleef Ltd	Roses	Njoro	Rathan	0787266007	rathan@vankleef.nl
WAC International	Breeder	Naivasha	Richard Mc Gonnell	0722810968	richard@wac-international.com
Waridi Ltd		Athiriver	Cameron	0722 745 478	cameron@waridifarm.com
Wilham Kabuku	-	Nairobi	Natarajan	0735 792 063	natarajan@eaga.co.ke
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	Pradeep Bodumalla	0736 586 059	farm@windsor-flowers.com
Xpressions Flora	Roses	Njoro	Brijesh Patel	0715469732	brijesh.patel@xflora.net
Zena - Asai Farm	Roses	Eldoret	Phanuel Ochunga	0722506026	pochunga@zenaroses.com
Zena Roses - Sosiani Farm	Roses	Eldoret	Jackson Mbanya	-	-

BEHIND EVERY GREAT ROSE



There is...

Optimizer[®]

Two phase fermentation technology

A pure **natural** fermented seaweed liquid bio-fertilizer enriched with chelating NPK



Greenlife
CROP PROTECTION AFRICA

Mombasa Road, Opposite Signature Mall,
Athi 55 Ltd Complex, Warehouse No. 6.
P.O. Box 24942-00100, Nairobi, Kenya
+254 722 563 698 | +254 735 544 544



Our Knowledge, Your Success.



New and Improved!

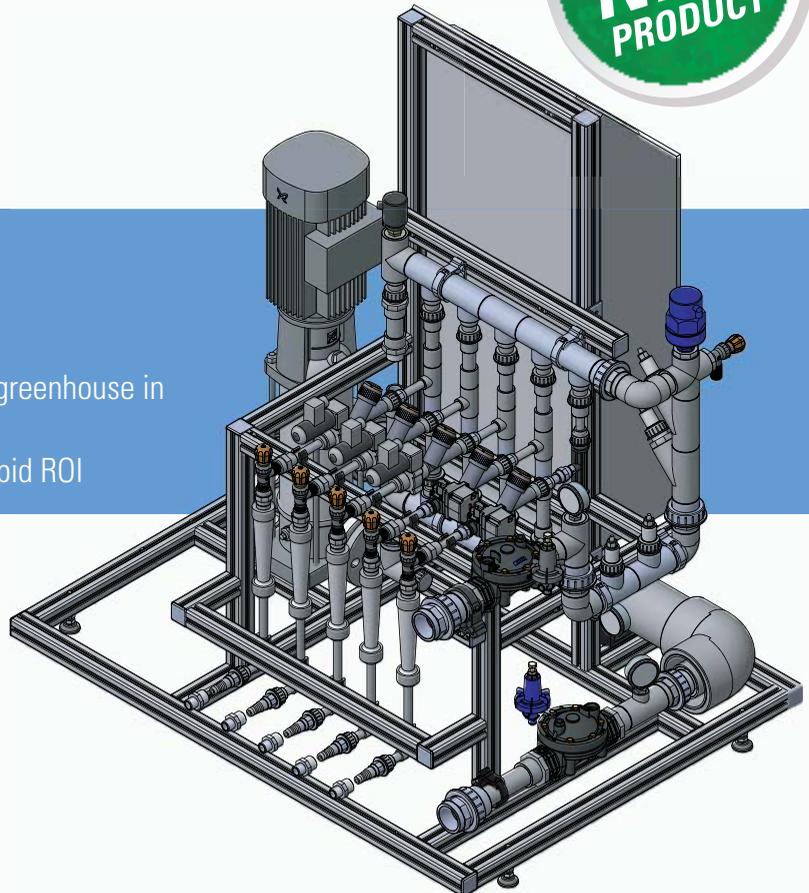
NetaJet™ 4G

Equipped with the Netafim™ unique innovative analog dosing channels - for very accurate and reliable EC/pH control



BENEFITS

- ◆ Easy to install and maintain system
- ◆ In-house developed offering
- ◆ Versatile flow capacity
- ◆ Covers all applications ranging from greenhouse in soil, to very intensive soilless media
- ◆ Requires minimal investment with rapid ROI



Call us free of charge on:
0800 720720

Old Airport North Rd. - Embakasi
P.O.Box 30327 - 00100, Nairobi, Kenya.
Tel: 0800 720 720

Email: pr@amirankenya.com

A member of the Balton CP Group of Companies

Amiran K Ltd @amiran_kenya

www.amirankenya.com