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THE LEADING FLORICULTURAL JOURNAL IN THE REGION

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The Leading Floriculture Magazine

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We want a talk on the 'State of the Industry,' but don't make it too negative." That instruction is given to speakers too often lately. Such an instruction suggests that some think the state of our industry is pretty bad, but if we don't talk about it, the industry will somehow be better. Certainly we each view the same facts somewhat differently—the proverbial same glass half full or half empty. So maybe we can view the instruction as make sure you take the half-full approach to your "State of the Industry" talk.

But it's important for all of us to take a serious, realistic view of the "State of our Industry." We have to look at the good, bad and ugly. We have to ask the hard questions and carefully analyze all the data. And although none of us should rejoice in a business failure, every business failure should be carefully studied because it can provide extremely valuable insight on decisions to avoid.

Flower farms pay agricultural produce cess and have to get single business permits from the counties, remit taxes to the Ministry of Irrigation, WARMA and NEMA. Paying taxes to the ministry of environment as well as to Warma and Nema, which are the agencies of the national government, is an act of double taxation? Counties have also introduced branding taxes where branded vehicles have to remit levies to any county they pass through at different rates. This is in addition to all KRA Taxes. Is this fair to our Investors?

Four investors have left for the neighbouring Ethiopia as discussed in this issue. On landing, they are met by government officials, chauffeur driven to Ministry head quarters, treated as VIPs, taken to site, given free land with five years tax holiday then sign a memorandum with the



government. Given this type of treatment where will you go as an investor?

Our January-February issue is always dedicated to Cold Chain Management. But in this issue, I had to steal some pages and dedicate them to Ethiopia, Why? This guys could not give me a break, they Emailed, Tweeted, Face booked, called and re-Emailed, just to tell me how the industry is doing.

Do we really love Kenya? Do we love fellow Kenyans? Do our actions and utterances show this love for all Kenyans, regardless of ethnic origin? Far too many opportunities are falling through our fingers. These opportunities come along only but once. We may never see them again.

Prosperous 2016



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Reduced breathing capacity in kids linked to early pesticide exposure

Taking a deep breath might be a bit harder for children exposed early in life to a widely used class of pesticides in agriculture, according to a new researcher.



The greater the pesticide exposure, the smaller the lungs, the new study finds. The new study has linked the levels of organophosphate pesticide metabolites in the urine of 279 children living in California's Salinas Valley with decreased lung function. Each tenfold increase in concentrations of organophosphate metabolites was associated with a 159-milliliter decrease in lung function, or about 8 percent less air, on average, when blowing out a candle. The magnitude of this decrease is similar to a child's secondhand smoke exposure from his or her mother.

The findings, published in the journal *Thorax*, are the first to link chronic, low-level exposures to organophosphate pesticides – chemicals that target the nervous system – to lung health for children. "Researchers have described breathing problems in agricultural workers who are exposed to these pesticides, but these new findings are about children who live in an agricultural area where the organophosphates are being used," said study senior author Brenda Eskenazi, a professor of epidemiology and of maternal and child health. "This is the first evidence suggesting that children exposed to organophosphates have poorer lung function."

The children were part of the Center for the Health Assessment of Mothers and Children of Salinas (CHAMACOS), a longitudinal study in which the researchers follow children from the time they are in the womb up to adolescence.

The researchers collected urine samples five times throughout the children's lives, from age 6 months to 5 years, and measured the levels of organophosphate pesticide metabolites each time. When the children were 7 years old, they were given a spirometry test to measure the amount of air they could exhale. The study accounted for other factors that could affect the results, such as whether the mothers smoked, air pollution, presence of mold or pets in the home and proximity to highways.

"The kids in our study with higher pesticide exposure had lower breathing capacity," said study lead author Rachel Raanan, who conducted the research while she was a postdoctoral scholar in Eskenazi's lab. "If the reduced lung function persists into adulthood, it could leave our participants at greater risk of developing respiratory problems like COPD (chronic obstructive pulmonary disease)."

The study did not examine the pathways for the children's exposure to pesticides, but the researchers did recommend that farmworkers remove their work clothes and shoes before entering their homes. They also suggested that when nearby fields are being sprayed with pesticides, children be kept away and, if indoors, windows should be closed. Pesticide exposure can also be reduced by washing fruits and vegetables thoroughly before eating.

"This study adds exposure to organophosphate pesticides to the growing list of environmental exposures – including air pollution, indoor cook stove smoke and environmental tobacco smoke – that could be harmful to the developing lungs of children," said Raanan. "Given they

"Chronic obstructive pulmonary disease is an increasing cause of death around the world," said study co-author and pulmonary specialist Dr. John Balmes, a UC Berkeley professor of environmental health sciences with a joint appointment at the UC San Francisco School of Medicine. "Since we know that reduced lung function increases the risk for COPD, it is important to identify and reduce environmental exposures during childhood that impair breathing capacity."

De Ruiter receives Royal approval



On Wednesday evening November 4, during an evening party at Claus Hoofddorp, rose breeder De Ruiter presented a special highlight of their journey from the past to their present existence. Through a video presentation that featured special effects, older pictures combined with new images, music and catering, guests were led through one hundred years of De Ruiter experiences.

The highlight of the evening was presentation of the Royal designation by Mayor Drs. MM van 't Veld to De Ruiter directors and owners Henk de Groot and Oscar Peters.

From this moment Royal De Ruiter take the opportunity to present its new corporate identity. The new royal blue, which was presented with logo, banners and images, was received with great applause.

Schreurs rose Mayfair! at Harvest Flowers Ltd



Harvest Flowera Limited's New Top Farm and Top Harvest Farm have planted 0.25ha and 0.05ha of Mayfair! variety respectively.

When we spoke to Mr.

Julius Oloo the Farm Manager described the Peach color rose as an easy grower, with a production of 180 – 200 stems per square meter at an altitude of 2,400m ASL. At the farm they get a length of between 60-80cm.

Mr. Oloo says that their target market for the variety is to florists in the UK, Sweden and Norway. "The variety is a good transporter. Our clients like the way it opens on the vase and are particularly impressed with the unique color and relatively good vase life of up to 10- 14 days," says Julius.

IFTF Kordes Roses Stand Doused in Floral Colours of Exclusive Limited Varieties

In the present day, there is a trend among rose growers to select varieties that they will produce exclusively in order to achieve a competitive edge in a market that is 'saturated' with rose varieties.

The various markets that rose growers are targeting demand novelties and innovation that is distinctive and unique, hence the need for exclusive 'limited edition' roses. Through Kordes' comprehensive breeding program, there is always a novelty within the selection of new varieties that sufficiently accommodates more than a select few.

During this year's IFTF event, the Kordes Roses stand was doused in floral color among which was a display of their range of exclusive limited varieties. These included Roxy from Sonjami Springfields, Limelight from African Blooms, Charmant from Mt Elgon flowers, Nautica from Kisima and Incredible from Vegpro.



Lolomarik to launch Pink Athena

Pink Athena is the latest in a line of Kordes varieties that are being marketed as exclusive or limited.

Since Simon van den Burg of Lolomarik discovered this mutation of Athena and Topper Murray, the GM of Lolomarik, has been diligently building up the material. The farm has the first 2ha of Pink Athena planted since October 2015 and should be on the market beginning of 2016.

Fresco Flowers is spearheading the marketing of Pink Athena. Fresco presented a vase during the Aalsmeer show 2015 and according to Gerjan Telleman, the rose has been receiving considerable market response. Kordes is upbeat with the potential of Pink Athena and hopes that Lolomarik will prove it to be an ultimate success.

Alpe d'Huez - Could This be the White Rose of the Future

The long term vision following the unveiling of Jan Spek's gorgeous white rose Alpe d'Huez® is one whose nobleness cannot go unnoticed. Alpe d'huez was named after one of the toughest top climbs of the Tour de France. The "Dutch Mountain" as Erik and other racing enthusiasts fondly refer to the section following superb results clocked by Dutch riders at this stage. Similar to the white snow covering the vastness of this part of the alps, the rose Alpe d'Huez® boasts an attractive and clean shiny white. Alpe d'Huez® is an almost pure white variety with a large bud and nicely shaped flower that boasts a unique symmetry.

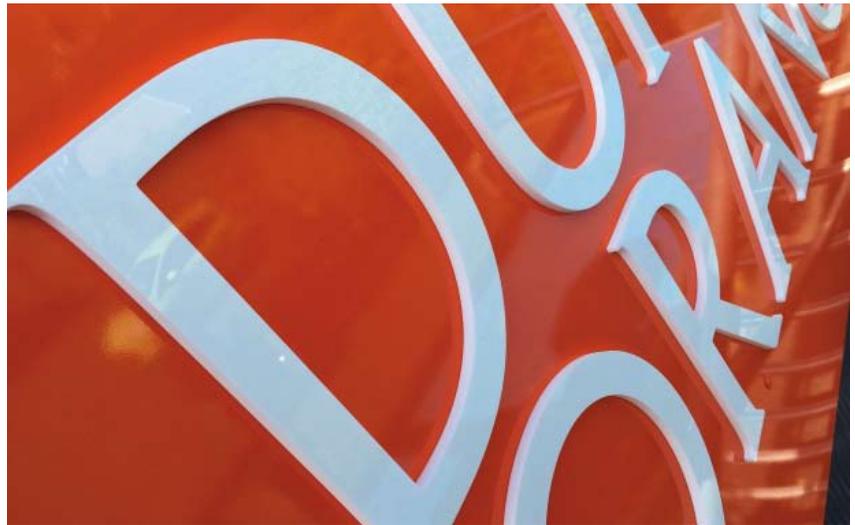
She is also a high producer with good stem-length. A few weeks back, the first bunches of the rose were introduced by Olij Holland and fetched some pretty decent prices.



Private equity firm to buy Dümmen Orange

Funds advised by BC Partners, a leading private equity firm, have reached an agreement to acquire a majority stake in Dümmen Orange, the global leader in the floricultural breeding sector, from H2 Equity Partners and the Dümmen family. The transaction is subject to regulatory approvals and is expected to close in the coming months.

Jean-Baptiste Wautier, Managing Partner at BC Partners, commented: "Dümmen Orange is a thriving, innovative and growing business, led by a talented and experienced management team which has an impressive track-record in floriculture and related sectors. We look forward to backing them as they pursue an ambitious growth strategy, fueled by investments in sales & marketing, advances in breeding



technologies, and selective acquisitions."

Biense Visser, CEO of Dümmen Orange, commented: "Our partnership with BC Partners will enable us to accelerate our development. They have a distinguished

track record helping companies achieve their full potential. With their support, we intend to continue to bring value-added innovation to growers, retailers and consumers, and we look forward to leading the consolidation of our sector".

Beauty of grassheart roses

This year, when celebrated florist Neil Strain staged his exhibition at The Flower Lounge for The Chelsea Flower Show, he aptly dubbed it 'A celebration of Roses'. Among the impressive collection of roses in Neil's amazing showcase, you couldn't miss the grassheart roses from Olij breeding. According to Neil, these unique roses blended exceptionally in making their luxury hand-tied Haute Couture Bouquets.

Back in the day, these types of roses would get zero chance from any breeder. They were considered ugly or deformed, and would not see the light of day in the

tedious and long process of variety selection. But then people came to appreciate the aesthetic value of these roses. Florists in their creativity started coming up with amazing arrangements and bouquets. The roses plus their arrangements initially appealed to a niche segment of flower consumers, but now nearly everyone has a soft spot for the grasshearts.

The green grass-heart is actually the flower base pushed through the petals by an 'overzealous'

stem that shoots through the flower. Grassheart roses have no ovaries, pistils or stamen; this sexless nature makes them hardy and longlasting.



Preesman to be Renamed



Five years ago the journey of the Dutch rose breeder Preesman started. In these years, they established breeding facilities in Kenya, selection and show locations all around the world, a totally new assortment for all altitudes, new product lines and much more. In short, Preesman has undergone many changes to enhance the quality of their services and products. Now it is time for the final change: a new name.

This new name will be announced at their breeding facility in Kenya in January 2016.

Date Valentine's Day not expected to affect supermarket flower sales

Growers are worrying about Valentine's Day, as it will fall on a Sunday, however, those who supply supermarkets are not concerned. From experience, flower sales of wholesalers and flower shops will be the ones mostly affected. Supermarkets suppliers, do not expect a drop in sales, even if it is on a Sunday.

No drop in supermarket flower sales

Flower sales are often lower when Valentine's Day is on a weekend. However, this does not seem to count for those who supply supermarkets. "We have been in the flower business for more than 30 years now, so we've experienced several of these Valentine's Days on the weekend. Of course, historically speaking, total sales of Valentine's Day flowers are a bit lower these days. However, this mostly counts for wholesalers and flower shops, we've never experienced a drop in sales during this time says a grower." According to him, the supermarket flower sales might be even higher on such a day as most of the supermarket flower bouquet sales are impulse purchases. "Lovers often have other events planned on the weekend to celebrate this day. So, when visiting the supermarket, before going out they mostly impulsively grab a bouquet of flowers.

Expensive bouquets to impress

Besides that, Valentine's Day flower arrangements are not only bought to express your feelings to loved ones but also to impress the surrounding people. Often, people buy an expensive flower arrangement bouquet from the flower shop to impress colleagues and friends of their loved ones. However, as Valentine's Day 2016 will be on a Sunday, there will be no colleagues and/or friends around. This combined with the fact that many lovers are spending more money on going out at the weekend, a supermarket bouquet of roses will often suffice



Seminar well attended by participants from all parts of the chain

International seminar floriculture industry concludes there is a broad-based need for sustainability and transparency

Achieving durability and maximum transparency is the responsibility of the entire chain. This was the main conclusion of the seminar "Shaping the Future of Floriculture," which took place on Monday 9 November on the S.S. Rotterdam. With just under 300 participants, the seminar, organised by Union Fleurs, VGB and MPS, received plenty of attention.

The subtitle of the seminar was "Sustainability and disruptive innovations: turning challenges into opportunities." Presentations by Marcel van der Hoeven (CEO Van Dijk Flora), Rens Buchwaldt (CFO FloraHolland), Alexander Zoern (CEO Blume2000) and Daniel Velez (CEO Suasuque) dealt with things such as the importance of sustainability and the role that certification plays in this. In addition, they tried to answer the question as to whether a disruptive innovation could turn the flower and plant industry on its head, as was recently the case in the taxi industry (see Uber).

Future certification

Theo de Groot, CEO of MPS, insisted on providing 100% transparency when it comes to achieving sustainability. In addition, he provided a glimpse into the future of certification. "Using advanced technologies, we are working towards a data-driven, real-time environment. Thanks to the availability of sensors, drones, apps, the Internet of things and innovations such as Google Glass, the performance of real-time audits is getting closer every day."

Chain-wide interest

With just under 300 participants, the seminar was not only very busy, it also boasted interest from the entire supply chain. All parts of the chain, from growers and trading companies to retailers were represented. In addition, a significant proportion of participants came from abroad. The main conclusion of the seminar was that all the parts within the chain are of the opinion that the achievement of sustainability and maximum transparency is the responsibility of the entire chain. To close the seminar, Herman de Boon, president of the VGB and of Union Fleurs, called for collaboration, also at international level. "We must ensure that there is open communication and maximum transparency, and create a situation in which relevant data is shared."

IFTF Expo 2015 Best Edition Ever!



The 6th edition of IFTF grew to a peak towards the last day of the show. Both exhibitors as well as visitors were extremely satisfied with the demand and supply at the trade show at Expo Haarlemmermeer in Vijfhuizen, Holland. With a very crowded first day, the high attendance continued on the second day to finish off on the last day with another crowded day. Over 27.000 trade visitors attended the

three day expo. Together with the 253 exhibiting companies, the number of participating countries totaled this year 128.

The atmosphere was great and a clear positive business buzz was going around the show. The number of new buyers, and especially the number of new (far away) countries from where these buyers came from, was remarkable. It was also noticeable that Russian buyers were present in considerable lower number. However, overall were the number of visitors was again higher than in 2014 and especially the quality of visitors was of a high content. Everybody was happy and some even were surprised by the excellent turn out of this edition of the trade fair.



FloraHolland Trade Fair



A record number of people visited the FloraHolland Trade Fair in Aalsmeer. In total 15.000 compared to 14.000 in 2014. Innovation, positivity and making new contacts characterise the annual international trade fair for the horticultural sector. "Growers and customers are again looking towards the future," says Wilma van Straalen, trade fair manager of FloraHolland. "The stands are more beautiful each time, and the atmosphere this year was extremely good and positive."

Around 15.000 visitors were registered, which is a record compared to last year. There were 750 standholders, both local and foreign, showing off their company and their product, with 470 plant growers, 180 flower growers, 50 breeders, 7 trading companies and another 50 'added value' stands. All these participants shared the 25,000 m2 floor of the trade fair for 3 days.

FloraHolland House

The FloraHolland House was the centre of the fair with its theme "Home of Opportunities". The stand had a new design. The inspiring and interactive daily programme of the FloraHolland House in combination with the delicious coffee attracted visitors and inspired them with the three style trends, the strategy wall and the beautiful arrangements by Elize Eveleens. "We deliberately chose an open and spacious design to become the place where members and customers could meet and start talking," said Servaas van der Ven, Commerce Concern Manager of FloraHolland. "And the idea was successful, it was a TOP trade fair!"

Dow and DuPont Merger Imminent

The combined company, which would likely require the businesses to break apart divisions, would require regulatory approval in several countries. According to Reuters, "the combined company could split into material sciences, specialty products and agrochemicals, the people said, cautioning that the plans have not been finalized." The possible merger follows the failed \$45 billion Monsanto bid for Syngenta that generated a great deal of interest earlier

this year. Several companies have been exploring options as lower commodity prices have decreased demand for seed and crop protection products. The merger could bring \$3 billion in synergies, CNBC says, and the new entity would likely become three separate companies one focusing on agriculture and the others on material services and specialty products.

Cold Chain Logistics Requires High Levels of Integration and Co-ordination

Cold chain logistics requires maintaining temperature integrity, controlling all the processes involved means high levels of integration and coordination. Each supply chain partner—from harvester or producer to the ultimate seller—shares responsibility. For example, cold chain transportation units are commonly designed to keep ambient temperature constant, but not to bring a shipment to the optimal temperature. But if a shipment is not adequately prepared and conditioned, its quality may be compromised.

Further, if a shipment will be exposed to extreme cold or heat along the transport route, considerations should be made to protect the products in transit. Transportation that extends over multiple days provides a host of opportunities for breaking the cold chain.

Route selection is important in order to maximize cold chain performance, especially in winter and summer. In extreme temperatures, companies should select routes that minimize the number of times doors must be opened. A lot of monitoring and



management goes into handling cold chain shipments. Knowing about extreme weather conditions in advance helps optimize equipment use and better protect products.

Contingency planning is also important. If a truck breaks down, or a refrigeration unit stops working, the carrier must be ready to respond. Even with the best systems and monitoring technology, an unplanned delay or rerouting could potentially jeopardize shipment stability. Shippers should work with their transportation partners to develop contingency plans that clearly map out a strategy in the event of a delay.

Checks and Balances
If problems or anomalies that compromise a shipment occur in transit, all trading partners must act to identify the source and find corrective actions. Grower, shippers and importers should all have checklists for documenting procedures for every step of the delivery process, because a solid system of checks and balances can help reduce the risks.

Shippers have to double-check the work of their supply chain partners, and understand the processes they put the product through. When the shipper hands a product off, for example, it is up to the transportation provider to ensure the product has been handled at the proper temperatures. The use of checks and balances for all partners helps ensure the cold chain hasn't been disrupted along the way.

The final transfer of a shipment into the storage facility presents another potential integrity breach. Key considerations when arranging final product delivery include not only the destination, but also timing. If the warehouse stages too early or too late, product temperature can stray outside the appropriate range. Warehouse employees should also be familiar with the product and the best way to handle it.

Consumers must know that, no matter where a product came from, it complies with food safety and regulatory requirements. This is not the place to take shortcuts.

Contingency planning is also important. If a truck breaks down, or a refrigeration unit stops working, the carrier must be ready to respond. Even with the best systems and monitoring technology, an unplanned delay or rerouting could potentially jeopardize shipment stability.



When a product is stripped and taken into cold storage, it loses integrity at that point. It is then up to the warehouse facility and managers to ensure they handle the shipment properly. Education and training are very important.

While customers will dictate some product storage and handling conditions, equipping warehouse workers with specific product knowledge is a best practice.

Several factors are important to ensure integrity of the cold chain once a shipment arrives at the warehouse. For example, what is the temperature requirement for each product? How long can it stay frozen and still maintain quality? What is the best way to store it? Does it contain allergens that require other products are not

placed next to it?"

Everyone involved must be dedicated to handling the products appropriately, monitoring the equipment, and ensuring proper storage. Unlike dry goods that do not require further concern until they are shipped, refrigerated products require 24/7 attention.

Shippers must be very clear about product expectations before a carrier accepts the shipment. They should devise an expectations manual that specifies its requirements in areas ranging from time and temperature control to cleanliness.

They should also use technology while shipments are in transit, so

they can check these stipulations automatically. They then load the data on their Website so it can be monitored remotely. These steps allow them to react to issues before spoilage and waste occurs. Preparing for Problems
If product spoilage does occur, the companies involved should have agreements in place to establish responsibility for damage.

International borders, knowledge of customs procedures are very important because cold chain shipments tend to be time-sensitive and more subject to inspection than regular freight. Understanding local rules, customs, and environmental conditions—as well as estimating the length and time of a distribution route—are important factors in global cold chain shipments. Knowing the export and import requirements and regulations is critical.

Cold chain management is challenging. Shippers have to view it through a lens of safety and quality. They must constantly review how they can improve processes, and whether they have the right practices in place throughout the supply chain.

Consumers must know that, no matter where a product came

from, it complies with safety and regulatory requirements. This is not the place to take shortcuts.

Guarding Against Vulnerabilities
The entire cold chain process should be about minimizing the time it takes to move a product through the system. Efficiency is key. Vulnerabilities occur if there are delays in handing product off from one facility or stage to another.

To manage cold chain shipments well, all parties must foster a strong partnership. Everyone needs a good working knowledge of best practices for cold chain handling and transportation. Fresh produce have to move as fast as possible to give consumers the most valuable, wholesome product, with as much shelf life as possible."

Increased globalization and demand for perishable goods are driving significant cold chain market growth. The tasks involved in handling and transporting fresh produce, as well as the energy required for refrigeration, make cold chain operations expensive. As the market grows, companies that understand cold chain distribution, and utilize best practices to improve efficiencies and reduce spoilage, stand to gain the most.





At the end of the year, FloraHolland and its CEO Lucas Vos look back on 2015 and the strategy for 2020. And look forward to the new year. "There is more optimism and daring in the sector and more sales being made. The strategy is taking off and growers are finding their way to the consumers."

Lucas looks back with a positive feeling on the past year. "The improved relationship with customers has continued. They are very satisfied with how we are implementing the strategy." Lucas notices that growers are finding their way to consumers and examining what experience does with the product. On the day of the interview, the Trade Fair in Aalsmeer concluded successfully with more visitors than ever. He saw that here, too, there is daring again in the sector because better times are coming back.

The Chinese are ready

Lucas was also extremely satisfied with the trade mission in which FloraHolland participated at the end of October in the wake of King Willem Alexander and Queen Maxima. "Our flowers and plants were beautifully presented in the spotlight. The Chinese are ready. They are becoming increasingly Western oriented and have a lot of money to spend. The chain operates very differently in China. E-commerce systems are well organised. The upper classes are rich, and the logistics of the Chinese are relatively good. Especially for the name Holland they are willing to pay more. The product must be well packaged, they are very sensitive to that." Lucas stated in his vlog of November 2 that the Chinese consider the Dutch to be

romantic. "With this positive association in their head, they want to buy our flowers and plants." Lucas also heard critical tales from some growers. "I've heard: we have already tried to break into China, but we did not succeed. The big difference from 10 years ago is that there are other boundary conditions now. The Chinese have much more money to spend, and the wealth of both the middle class and the elite is increasing."

What was the highlight for Lucas? "That King Willem-Alexander said, 'You again,' during our mission in China. That means we were having success in drawing attention to our flowers. We need to aim at the upper segment. We can't reach all 1.3 billion Chinese."

The New Auctioning

About the strategic programme the New Auctioning Lucas has heard only positive comments from both customers and growers. "They really liked being included in designing the strategy during our regional meetings in November." The direction that auctioning is moving in is becoming increasingly clear. There are four lines of thought being considered. "It is probably moving towards sales from the nursery itself. To give shape to this possibility, many choices have to be made first. We need all of the meetings with growers, customers and employees to obtain input to make the right choices. In other words, lots of new developments."

Demolish and rebuild

Lucas Vos is also worried about the future. "There are real choices that have to be made with the New Auctioning, and what is going to happen in 2016 as a result? What will that do to us, as people, but also as an organisation? On the one hand we are demolishing, on the other we are rebuilding.

"Another of my concerns is that we do not know whether the consumer is spending more. Collecting this sort of data takes a long time. Everything that we are doing for funding promotion and the Consumer programme, will that really lead to more spending?"

The future of the cooperative

"What is the future of the cooperative? Who are we, how do we deal with each other? That will be the core of the new cooperative for which we shall be making a strategic programme in 2016. Cooperative 2020 will be about who we are, and we shall be conducting real talks with our growers about this. I'm really looking forward to that. We can have that talk now under better circumstances in the horticultural sector and people are feeling more positive. The tide is with us."

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We can open up new markets

Following the announcement of Panalpina's acquisition of Airflo in November 2015, the two companies say it will be to the full benefit of Kenya's flower growers. Colin Wells (Right), global head specialty vertical perishables at Panalpina, and Conrad Archer (Left), managing director of Airflo, explain why Airflo's heritage and Panalpina's global outreach and in-depth understanding of the perishables business is a winning combination.



Airflo is a known and respected brand amongst Kenya's flower growers. Will it soon disappear given Panalpina's acquisition of the company?

Conrad: The new entity will be called Panalpina Airflo, so Kenya's flower growers will still encounter the brand name, but more importantly they will still experience everything it stands for. Our customers will continue to receive the quality service that they are used to. In addition, they'll also benefit from Panalpina's global reach and expertise.

Colin: Conrad is right. Everything is being maintained—including more than 160 staff in Nairobi and Aalsmeer with their expertise and dedication. Airflo's infrastructure, processes and attention to detail are also being preserved. Airflo's legacy will definitely live on and Panalpina is bringing new ideas and people to the table.

What exactly do you mean by that?

Colin: A big benefit for customers is that Panalpina is great at connecting people and companies anywhere in the world, not just in Kenya and the Netherlands. Panalpina Airflo will help Kenyan growers to make the most of the worldwide opportunities available to them. The UK is an interesting market for example. The two companies combined can tailor-make solutions to fit individual customer needs for the UK. Together, we have a combined knowledge at product origin and product destination.

Conrad: Panalpina's global reach and ability to network are definitely major advantages for our customers. Panalpina Airflo will bring different stakeholders to the table, in a way that is beneficial to everyone. We can connect growers with importers and exporters with growers. As one of the world's biggest air freight users, Panalpina also has excellent relationships with the airlines. After all, Panalpina's global annual airfreight volumes are many times those of Airflo.

Are volumes important to you?

Colin: We are more interested in the product moved than in the volumes. We call this product empathy. Volume is important, but it should be secondary to quality. If we do our homework on the quality side, we will automatically expand our business. Most of our competitors are more interested in the kilos moved than the product moved. We guarantee a quality service that is, frankly, unmatched by others in the freight forwarding industry. Other forwarders might offer false economy because customers end up losing money through product wastage.

Conrad: We work in partnership with our customers to meet their needs. And, because our stakeholders traditionally come from a flower-producing and flower-selling background, we understand the product.

In other words, quality is key and you can only assure it if you know the product?

Colin: Absolutely. Quality is key, be it for flowers or other perishables.

Conrad: We don't just move boxes from A to B — we care about what's inside the box. This matters. It goes back to what Colin called product empathy. It helps us deliver a better service and keep the product fresh.

Can you give an example of how you guarantee quality?

Conrad: We are the only specialized handling company in Kenya to offload all of our products via dock seals. The flowers go from one controlled environment to another. We also use thermal blankets to cover the flowers during transit to the apron, which no other forwarder does. These and other extras such as vacuum cooling and temperature monitoring of all shipments help us deliver a quality product.

What role can Panalpina's Charter Network play for Kenya's flower growers?

Conrad: We're looking to use the Panalpina Charter Network to try and develop new markets for Kenyan growers. The Charter Network will help customers develop their global reach.

Colin: It's about watching markets and preempting good opportunities. We want to use our Charter Network to be proactive, not reactive.

Where could the journey go?

Colin: The U.S is certainly an interesting market.

Conrad: I agree. Currency has been a big challenge lately for the Kenyan flower growers, especially with the dollar-euro exchange rate. We recognize the pressure this puts on our growers. With Panalpina's global reach, we can open up new markets like the U.S thereby diluting exposure to single markets and currencies.

Colin: Exactly. You can have one market suppressed by currency translation, but another will open up because of it.

How do you invest in business and customers?

Colin: We invest time and effort into planning complex, end-to-end solutions that maximize our global network. We look at ocean freight options, too. This also means we're CO2 conscious, as well as cost conscious. Every decision is based on how the customer will benefit. We responsibly manage the cool chain to ensure the product arrives at its destination in the optimum condition. Ultimately, our customers want accountability.

Conrad: We understand the importance of investing — in the cold chain, in infrastructure, in trying to stay best in class. We plan to invest in track-and-trace capabilities, bar coding and improved temperature monitoring systems. Supporting our customers as much as we can in the area of e-commerce is also a top priority.

What will be the impact of e-commerce on the Kenyan flower market?

Colin: We are convinced that perishables, such as flowers, are going to play a huge role in the global e-commerce revolution. Smart phones are like virtual stores and, increasingly, they'll also be used to purchase flowers. The technology is already established and so are the networks for delivery. This will be a game changer.

Conrad: The rise of e-commerce will enable growth at consumer level, for example in China and the U.S. With our combined expertise in flowers and logistics we can drive these new opportunities.

What other trends do you see for the flower industry?

Conrad: The customer wants to buy directly from the producer in Kenya. The producer in Kenya also wants to sell directly to the country of consumption. Cross-trading, or direct marketing, is a growing trend in the industry, something Panalpina Airflo will be able to facilitate globally.

Colin: If customers can go from A to C while avoiding B, it removes unnecessary costs, and also removes potential delays. Cross-trading ensures speed to market and we have the global network.

We are in high season. Do you expect business as usual running up to Valentine's Day?

Conrad: We expect the usual huge peak in the run-up to Valentine's Day, so we will put on extra charter flights as required to deal with the additional demand.

Colin: This is a perfect example of providing a quality service — we're allowing customers to respond to these peaks by helping them manage demand. On Valentine's Day, many flowers will be bought and appreciated, but few people will realize just how much effort and care has gone into these beautiful fresh cut flowers.

Panalpina acquires Airflo in Kenya

On November 5, 2015, international freight forwarding and logistics company Panalpina announced it would acquire a majority stake in Kenyan freight forwarder Airflo from Dutch Flower Group. The move is part of Panalpina's continued expansion in Africa and its increasing focus on the perishables business. The deal is expected to close in January 2016.

Since 1990 Panalpina has been the only major freight forwarding company to offer its Charter Network for air freight. It is a unique asset that differentiates Panalpina from all other large freight forwarders. The network uses leased and chartered aircraft to guarantee capacity, and is structured to handle express and special shipments. One of the biggest benefits of the network is control, for example when handling temperature sensitive cargo. Panalpina not only controls aircraft on specific routes, but the company designs and oversees processes on the ground as well, ensuring the best possible control from door-to-door.

Outsourcing: “the best option when entering new markets”

“Shortening the supply chain is a trend. More and more companies are working with direct partners as this will reduce their costs and increase their yields. However, when entering new markets - and many growers/exporters are forced to do so due to the situation in Russia, for example - these benefits might vanish as companies have to deal with higher risks/costs. Then outsourcing can be a good option to consider.”

This is explained by Armando Paoloni of AP Network, an independent business developer, who is active in the acquisition, sales and interim management for companies around the globe. “Our aim is to ‘relieve’ companies from time consuming, cost intensive and risk involving activities.”

Supplying the customers of your customers

The flower supply chain is becoming shorter as the ornamental sector has to deal with thin margins. More and more companies are supplying the customers of their customers. “A recent trend we see, is that companies are establishing a farm abroad which supplies to their home market, where they also have an office. Some large growers, for example, established a farm in South America and an office in the Netherlands. Their flowers are being grown abroad and are

being supplied directly to the florist in Europe. In this way, no exporter/importer or middlemen is needed anymore, so the yield is higher,” says Paoloni.

More direct partners more risks

However, the majority of growers/exporters do not have their own office abroad, but are dealing with direct partners. Even though this way of supplying increases the yields, it also involves more risks. When searching for new markets - and many growers are currently forced to do so due to the decrease in demand and prices in for example the Russian market, a major market for many - finding the right and trustworthy buyers is not always that easy. This also counts the other way around. Also increasingly more buyers are looking for direct partners as it will reduce their costs. Therefore, they also have to deal with more risks. In order to reduce the risks, for both the growers and the buyers, Paoloni started to offer a service which will ‘relieve’ both parties. “As I am in the business of exporting flowers and plants for 25 years, I can find and connect the growers with the right buyers and the right buyers with the right growers. Besides that, there will be no language-barrier as my team and I master the English, German, Italian, Spanish, Chinese and Dutch language.”

Save time and money

The services of AP Network will not only reduce the risks but will also save companies time and money. “Usually when a grower/exporter wants to enter new markets they have to put in a lot of energy and costs to successfully enter this new market. For example, they have to invest time in discovering the market themselves or invest money in hiring a new employee who will evaluate the opportunities in a certain market. As AP Network is working on a interim basis, this will save the company both time and money.”

Commercial support

Besides finding new markets, ways to enter these markets and connecting companies, AP Network also assists companies in their commercial activities. “For Atlantis, for example, one of my partners is an exporter with companies in Italy and Austria, and I handle a part of the sales here in the Netherlands. I know the Dutch market, master the language and the office is strategically located in Woubrugge, the Netherlands; within 20 minutes I am at the Westland area, Schiphol and FloraHolland. Therefore Atlantis does not have to put more effort in his sales over there. And as I am doing this job on an interim basis, they can make use of my services whenever they want,” he says.



Kenyan and Chinese Trade Lobbies Agree to Cut Import Logistics

Kenya and China trade lobbies have launched an online window to help reduce logistical cost for import and export trade between the two countries, and thus rein in trade in fake goods.

Kenya National Chamber of Commerce and Industry (KNCCI) and Amanbo, the first online Sino-Africa business platform, signed a memorandum of understanding in Nairobi that will ensure strict scrutiny of products entering the country.

"KNCCI is pleased to be a part of finding solutions that would enhance trade between both countries, as well as create opportunities for Kenya as an investment destination by investors from the rest of the world, and become an exporting country to China," KNNCI chairman Kiprono Kittony said.

Under the deal, KNNCI will help verify the quality and standards for Kenyans who want to post their products for the Chinese market. Amanbo will then allow Kenyans to open free online shops to advertise in China while displaying products for import. "Kenyans will be assured of getting genuine and authentic products from China.

"This will save us a lot of trouble while trading with the country," Kittony said.

"We want to see more coffee, cut flowers and vegetable being exported into the Chinese markets," he said.

The online platform, which was launched this year in Africa targeting the growing volumes of trade between the continent and China, is expected to become a game changer in the import and export trade.

The platform has also been launched exclusively targeting at marketing goods and services offered by Kenyan exporters and Chinese importers, with a promise on huge discounts for users.

Kenyan exporters will get access to wholesale products from China, find qualified manufacturers, suppliers, exporters and factories from Amanbo.com.

Local products will also enjoy free display in Chinese markets with exporters tipped to save cash by cutting travel, accommodation and transportation costs.

Amanbo has set up shop in the continent's leading IT markets. It eliminates the language barrier and offers local traders a large pool of options to pick the most competitive prices from thousands of manufacturers for their products.

Fungicide 3AEY to Be Sold in Kenya

Eden Research reports that its partner, Lachlan Kenya Limited, has received approval to commence sales of 3AEY in Kenya (where it will be sold under the trade name Hawk). 3AEY is a fungicide formulated from plant-derived actives and a natural microencapsulation system that primarily targets Botrytis on various edible and inedible crops.

The approval allows Lachlan to sell 3AEY into markets in Kenya through its distribution network. Lachlan will initially be targeting the treatment of peas, beans and cucurbits, before expanding into the cut flower market for export to Europe and further afield. Kenya exports over \$500 million of cut flowers each year with over 125,000 tonnes of products shipped and flown around the world, with a significant amount going to the major supermarkets in the EU.

Under the existing licence agreement between Eden and Lachlan, Eden is now due a milestone payment and will receive royalties based on net sales of 3AEY. Eden will also supply Lachlan with 3AEY from the UK using its network of toll manufacturers and suppliers and has received an initial order to provide enough 3AEY to treat an area of approximately 1,667 hectares.

A Closer Look At Family Businesses

It is always an important skill when working with family businesses to find the balance between the continuity of the company and the harmony in the family.

The strength of family business and its importance to an economy is widely praised. The family business is a success. But what about the 'behind the scenes' of all these success stories? What is 'the real story'? Because where people work, there are strong emotions.

It seems that within the family, the emotional factor plays an even greater role than in a non-family business. Emotions can be a source of strength, but also a source of conflict. Why is one family business able to handle these emotions, whereas another family business becomes a victim of their emotions? In short: what is the psychology behind the family business?

Globally, 60% of companies are family businesses and in the flowers sector, the percentage is even higher. "We can, of course, address the issues that arise within families in a very substantive and technical way, but if we were to focus only on that, we would go wrong. Then you disregard the dynamics of a family business with its family bonds and emotions. Therefore, it is always an important skill when working with family businesses to find the balance between the continuity of the company and the harmony in the family.

Characteristic of a family business is that it does not look at the next quarterly figures but to future generations. That makes you look differently at things like land holdings and investments. On the other hand, you see that in many family businesses, they say they are looking at the long term, but that they don't talk about things like succession. In practice, they often leave it too late. That may be because they find they are having too much fun to think about it, sometimes with the result that they are hit with a succession of health problems. Or sometimes they talk so much about succession that children have to fit in with it or so little that children no longer identify with the business.

The situation that the successor is not considered as capable is another classic example. These are very difficult cases, in which a conflict of roles occurs between the director of the company who is also the father of the son or daughter. Also, partners often play an important role in a family business. They have no blood relationship, can sometimes view other things as more important and are also often seen as troublemakers. At the same time, the family must also realize that partners do not just present problems. If the children are the

future of the business, they are, after all, also the children of the partners."

Family agreement

We always recommend making such difficult issues discussable so that the family can form an opinion. This can be done by a family agreement or mission statement about the company and the relationship between the family and the company. It sets out how the family views the sale of the business or the role of family members in the business. If a situation then arises, you can fall back on the agreement, rather than the emotion of the moment in order to come to a decision.

There is need not to say what should or shouldn't happen, but to put a process in motion, so there is a certain development in the process. It can even create a certain objectivity in what the company needs and if that is feasible. These can sometimes be painful questions. The trend is that there are far more family-controlled enterprises emerging, in which the family owns the business, but does not actually run the business, instead of the family-run enterprise like it is used to. But that also brings with it new challenges.

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Temperature is one of the most important factors in the postharvest phase to control quality losses in cut flower but it is still poorly managed, partly because its effects are not always understood well.



Realising Added Value Of Investing In Cold Chain Management

Cold chain management in cut flower supply chains is now of major importance due to markets which are far apart. A research carried showed possible ways to realise the added value of investing in cut flower cold supply chains.

It suggests that in addition to the external quality parameters currently being used in the grading system at flower auctions, internal quality attributes such as vase life should be considered. It is assumed that considering internal quality attributes such as vase life will result in the realisation of the value of investing in cold chain management. Flowers from a well-managed cold chain are likely to have a longer vase life and also likely to attract higher prices. The use of predictive modelling to predict vase life and three predictive models that have been put forward in literature are discussed.

Temperature also has an effect on the rate of metabolism, water loss, tissue deterioration and growth of *Botrytis cinerea* in harvested cut flowers. Although the development of *B. cinerea* is mainly influenced by the presence of condensed water on the flower as it allows spores to germinate, temperature also play a role in the germination of the spores.

The presence of *B. cinerea* and other physiological defects seem to have great repercussions in the cut flower supply chain. A few or minor defects on the flowers can render them undesirable on the market for aesthetic reasons.

A minor quality remark by quality controllers at the auction floor can lead to a decrease in price of 5% to 10%. Therefore, cold chain management (CCM) is an important issue in the cut flower business. So what

needs to be done for growers to realise the added value of investing in a cold supply chain as practising a strict cold chain comes along with a lot of costs to the grower. These costs should also translate into higher prices and more profit for the grower.

Cold chain management
CCM is defined as the process of planning, implementing and controlling efficient, effective flow and storage of perishable goods, related services and information from one or more points of origin to the points of production, distribution and consumption in order to meet customers' requirements. Cold chain management is essential for preserving the harvested quality of cut flowers. Maintaining the cold chain is important for several reasons, all of which relate to maintaining product quality.



Management In Cut Flower Supply Chains

Effective CCM begins on the farm and ends once the product reaches the customer. Therefore, a cold chain is definitely a strategic competitive advantage in the floriculture business. CCM requires careful temperature control and quick reactions should be taken when anomalies appear in temperature or time delays occur. Temperature control at each stage of the supply chain is essential to maintain the required quality of a product until it reaches final consumer. Investment in CCM is therefore vital to cater for temperature abuse that often arises in the cold chain. Investment in CCM is therefore vital to cater for temperature abuse that often arises in the cold chain.

Temperature monitoring
Temperature has a significant influence on the development of physiological defects in many fresh produce, it is therefore of

paramount importance to monitor time-temperature conditions in the chain and this information can be used to predict quality loss in the chain. Temperature monitoring and control is judged to be the solution to 90% of the quality problems, starting when the product is harvested on farm. Experiments show a dramatic reduction in vase life of cut flowers as storage temperature increases. In the experiments, the respiration of cut flowers increased

CCM is defined as the process of planning, implementing and controlling efficient, effective flow and storage of perishable goods.

exponentially as the temperature increased from 0°C to 20°C. The vase life of flowers of the 'potomac pink' cultivar stored dry at 0°C was 10.8 days longer than that of flowers stored at 7.5°C. The decrease in vase life of the flowers was matched by an exponential increase in the respiration of flowers at increasing storage temperatures. The experiments therefore demonstrated the importance of proper temperature control in the postharvest handling of cut flowers. In a detailed study of a wide range of cut flowers undertaken found that holding cut flowers at 7.2°C for five days reduced their vase life by an average of 30%.

The use of time-temperature indicators (TTIs) has helped growers to pin point problem areas in their supply chains. TTIs make it easy to identify temperature fluctuations in the cold chain. The

importance of using TTIs to monitor temperature conditions in fresh produce supply chain. TTIs are effective in monitoring temperature hours in fresh produce supply chains. Information from TTIs can also be used to adjust and/or improve management of temperature conditions in the cold supply chain and achieve required optimum temperatures. TTIs measure both time and temperature and integrate them into a single visible result and have the advantage of indicating the cumulative time-temperature history of the products.

The amount of rejected products in the distribution system can be minimised using a TTI-based monitoring system as it enables the classification of products according to keeping quality/shelf life remaining. TTIs have a great potential to satisfy the thermal monitoring requirements. Hence, the use of TTIs is of great importance in maintaining a good cold chain in cut flower supply chains.

A more advanced monitoring system

through use of radio frequency identification (RFID) is also being used in monitoring temperature hours in agri-food supply chains.

The primary advantage of RFID is that it can facilitate the automated data collection without human intervention throughout the supply chain. Whilst use of TTIs to monitor temperature is a great step towards achieving optimum temperature conditions in the cut flower cold supply chain, there is need to be able to measure the added value of maintaining a strict cold supply chain. Information from TTIs gives signals to problem areas only. Hence, more work needs to be done to quantify the added value from maintaining a good cold supply chain in which optimum temperature of 2°C to 4°C is achieved. Temperature monitoring in itself is not an answer to high quality flowers or a longer vase life, but it is only a tool to alert the supply chain on problem areas that need attention.

For the added value of investing in CCM to be clearly visible, there is need for

the development of models that enable prediction of vase life of flowers right from the moment of harvest to the point-of-consumption (customers). Also, it is important to develop an integrated system that allows virtually everyone involved in the supply chain to have access to the temperatures hours of each batch of flowers so as to improve the use of the data for decision-making.

Realising the value of investing into CCM Whilst growers benefit from maintaining a cold chain through improvement in quality and a longer vase life for their flowers, the auction system that is mostly used in the flower trading business, does not bring out the real value of maintaining a strict cold supply chain as the vase life of the flowers is not considered during the auction floor marketing system. Cut flowers are classified after harvest based on their external characteristics such as stem length, stage of maturity, flower size and foliage quality and internal quality of flowers which include vase life has not been incorporated into quality classification of flowers, especially at auction floors. This makes it difficult to realise the value of investing or managing a strict cold supply chain as expected vase life of a given batch is not considered.

For growers or any actor in a cold supply chain to appreciate the added value of maintaining a strict cold supply chain of 2°C to 4°C, tangible benefits realised out of maintaining such supply chain should be visible. The argument is that flowers out of a 2°C to 4°C cold supply chain should fetch better prices than those that were exposed to above optimum temperature. There is need for use of predictive models to estimate expected vase life of a given batch. Use of predictive models is likely to make it easy to relate CCM with benefits realised out of investing into such supply chains.

To be able to realise the value of maintaining a good or strict cold supply chain, there is need to relate information from data loggers on temperature hours





flowers are exposed to in the chain and expected vase life. Tagging each batch with the expected vase life or with its temperature hours at the auction floors can help bring forth the value of maintaining a strict cold supply chain. The assumption is that with the help of predictive models that relate temperature hours and vase life, buyers at auction floors are likely to also consider vase life or temperature hours of a given batch in addition to the usual external quality aspects which are normally considered.

However, to be able to consider vase life at auctioning of flowers, there is need to have a systematic and universally acceptable predictive model of vase life in cut flowers so that buyers can easily translate temperature hours into remaining vase life.

Summary and conclusions

Based on this overview it can be concluded that for growers to realise the added value of maintaining a strict cold supply chain vase life of flowers in addition to external characteristics should also be considered at the auction floors. However, to be able to

relate vase life and temperature hours, there is need for predictive models that can help estimate vase life of cut flowers. It is suggested that predictive models that can be easily used to relate temperature hours to vase life should be developed and used at auction floors to determine vase life.

Another simple and easy way that can help realise the added value of a cold supply chain is to make it compulsory for all growers to use data loggers to monitor temperature hours of their flowers from the moment of harvest. Allowing buyers to have access to time-temperature data from these data loggers will help buyers consider temperature hours the flowers had been exposed to in their buying decisions. It is therefore recommended that there should be unlimited access to information on temperature hours and there is also need to automate data into vase life model/ prediction. Doing so will help informed decision making in the cold supply chain and those who will have invested in a good cold chain are rewarded accordingly through better prices on their flowers.

In business, David and Goliath Should Sometimes Work Together

Competition has been the engine behind business and supply chains since the two sprung into existence. Even back when the first people swapped goods and bartered for services – and when the term ‘supply chain’ was millennia away from being coined – competition was a driving force.

With competition playing such a critical role in the business realm, one might underestimate the smaller players. How can a multinational flower grower compete with small scale? How can the small or mid-sized retailer go toe-to-toe with the auction?

True, the smaller players are sometimes struggling to emerge from their larger competitors’ shadows. Indeed, titans have proved ruthless adversaries.

But that doesn’t mean SMEs aren’t a force to be reckoned – or partnered – with. While they may not have the deep pockets or name-recognition of the big guys, they possess their own proficiencies: like the ability to adapt quickly, to be nimble, and to change at a moment’s notice. They are also hungry for growth and, unable to afford customer attrition, intensely loyal.

Often, these proficiencies outstrip the bloated bureaucracies and lumbering pace of the giants. For proof, look to the world of online payments and transactions. It’s a landscape that has grown explosively over the past few decades, and still manages to

change and grow rapidly. Paying online with credit cards has been supplanted by services and applications like Mpesa. And now, the currency we’re accustomed to – dollars, euros, pounds and yen – is quickly becoming passé.

In this tumultuous payment landscape, the smaller guys can have a clear and distinct advantage. Smaller companies, especially tech start-ups, have been quick to adopt Mpesa payments. But the industry giants, not so much.

Mpesa usage is merely a single example of pioneering practices. Arguably, smaller companies may well have an edge in swiftly delivering new designs or products. Agile, smaller teams that are globally interconnected with fewer echelons of hierarchy and less bureaucracy may be in a better position to bring fresh concepts to market. Even the slightest change management can progress at a lumbering pace.

Combining strengths

In the world of supply chain process outsourcing, this struggle behind big and small doesn’t need to exist. Indeed, the two can come together to favourably complement one another.

The SMEs and Multinationals of the world have their own core competencies, and they perform them spectacularly: housing guests around the globe, and retailing a vast variety of goods. Why, then, would they concentrate their energies on repeatedly retooling or re-engineering an untold quantity of corporate processes? Undeniably, for efficiency: but, should they?

Consider multinationals who outsource flowers from the small scale growers outsourcing business that works with

multinational companies can partner with companies and perform the tasks that are not strategic for the larger company to carry out. These tasks, for example, include growing fillers and other outdoor crops. Often, an enterprise lacks the time, resources and proficiency to execute nonessential processes efficiently. Enter a capable partner. SMEs – through rapid innovation, closer contact to customers and a menu of evolving skills such as data analytics and visual modelling – keep their larger competitors on their toes and are precisely the associates with whom to partner.

SMEs – or comparable, competent outsourcing businesses – can be particularly essential during difficult times, when there may be, for example, a constraint on commodities and services, such as plant closings, tariff changes, and supply shortages. Not to mention the ability to offer a more intimate customer experience.

In fact, examples of industry giants working with smaller global experts are swiftly becoming popular, if not the norm. The Huffington Post (2015) recently noted: ‘As entrepreneurs, leaders, business owners of organizations small and large to succeed in the new world we need a new operating system; one that sees us move from a ‘competitive’ way of doing business to that of a “collaborative” workspace.’

Ultimately, competitiveness and collaboration offer the marketplace a potent combination. Emerging and established SMEs may offer flexibility, independence and perhaps even a greater appetite for growth, but when coupled with their larger, veteran counterparts, the global market offers an array of quality goods and services.

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TM

Recirculation

Sodium in the root environment

Introduction

Samples are being analyzed to determine if growth circumstances are suitable for optimal growth. Circumstances have to be optimal to prevent growth inhibition, especially when drain water is being recirculated. Sodium excess can cause growth inhibition.

Nutritional unbalances can be corrected more or less easily, but it is not always easy to remove too much sodium from the root environment.

There are a few factors affecting salt stress in the plant, like crop sensitivity, growth stage, irrigation method and plain water quality. Too high sodium concentrations in the root environment occur primarily because of too salt irrigation water, and sometimes due to long term recirculation. But what is too high sodium?

Drain water coming from substrate

Before January 2013 sodium in drain water was determining in the Netherlands whether one was allowed to drain out water to surface water or drainage canal. Since January this year this governmental measure is replaced by a nitrogen emission standard. Actually this is a pity because especially in recirculating irrigation systems sodium increase in the root environment can inhibit the uptake of cations and cause growth inhibition. In the under mentioned table the Dutch governmental sodium standard in drain water is compared with the cation concentrations in our vegetative standard feeding solution.

Comparison sodium (Na) in drain water with cation concentration in the standard feeding solution.

Crop	Na concentration in drain water above which draining was allowed. (in mmol per liter)		K, Ca, Mg concentration in de vegetative solution (in mmol per liter)	
	Na concentration in drain water	K	Ca	Mg
Tomato	8	9.5	6.3	2.3
Paprika	6	8.2	5.9	1.8
Cucumber	6	10.1	5.3	1.7
Eggplant	6	9.1	4.4	3.4
Strawberry	3	4.2	3.7	1.5
Phalaenopsis	0	3.5	1.3	0.4
Rose	4	4	3.4	1.4
Gerbera	4	5.5	3.0	1.0
Anthurium	3	4.5	1.5	1.0
Amaryllis	3	7.5	3.1	1.0

In the near future more and more drain water will be recycled. Since January 2013 the Dutch government uses nitrogen emission standards per group of crops, divided into 9 groups. The emission standards are expressed in kg nitrogen per hectare per year.

Sodium sensitivity and fruit crops

Beans are very sensitive for sodium. Eggplant, strawberry and lettuce are sensitive. Tomato and cucumber are insensitive for sodium. Paprika responds in a different way to high sodium concentrations in the root environment; at the beginning of the cultivation more sodium is taken up compared to the end of the cultivation.



Picture of sodium excess in paprika growing in coco peat substrate

The picture above illustrates paprika leaf with poor root development. The paprika grows under circumstances with a high sodium concentration in the root environment. Sodium in the drain water increased considerably at the end of the cultivation. In the drip water we found an average of 2.6 mmol/l Na (at drip EC level 1.9 mS), in the root environment sodium increased from 3.6 in the summer to 7.9 mmol in October this year (at drip EC level 3.2 mS).

Recirculation

Sodium in the root environment

By our experience this situation occurs regularly outside northwest Europe. We hardly see such situations in northwest Europe.

On our website you can read interviews with tomato-, cucumber- and strawberry consultants, regarding salt stress and recirculation in these crops.

Sodium sensitivity in cut flowers

Anthurium is a crop very sensitive for sodium. Gerbera, amaryllis, alstroemeria, rose and tulip are examples of sensitive crops. Chrysanthemum, carnation are examples of insensitive crops. On our website you can read an interview with an amaryllis consultant, regarding salt stress and recirculation in this crop.

Sodium sensitivity in pot plants

Potting soil suppliers regularly test their peat substrate samples before planting, to check the nutritional situation of the potting soil. In high quality peat substrate we normally find very few sodium, approximately 1 mmol/l Na at EC 1 mS or less. Generally the potassium concentration is a little higher compared to the sodium concentration. The calcium concentration is approximately the same as the sodium concentration. The magnesium concentration often is a little lower compared to sodium.

We divide up pot plants in groups based on salt sensitivity for sodium chloride (NaCl) in the 1:1.5 volume extract from the potting soil. Sowing substrate should contain less than 1.7 mmol/l Na in the 1:1.5 volume extract. At the start of the cultivation and during the cultivation we use the under mentioned table for salt sensitivity.

Table salt sensitivity for Na, Cl and EC in the 1:1.5 volume extract.

Salt sensitivity	Maximum sodium quantity in mmol/l Na	Maximum chloride quantity in mmol/l Cl	Maximum EC in mS/cm
Sensitive	1.7	1.7	1.0
Moderate sensitive	2.5	2.5	1.4
Little sensitive	3.5	3.5	1.8

Regularly samples from coco peat substrate are tested, to check if the substrate is washed and buffered properly. The mean for plant roots easily available sodium content is 40-50% of the total sodium concentration in the substrate. The rest of the sodium is dissolved slowly under the influence of irrigation with a nutrient solution. The same for potassium, of which 30-50% is directly available for plant roots. Only a very small part of the calcium (2-6%) is directly available. Up to 25% of the magnesium is directly available, but in general this is only a few percent, depending on the fertilizers applied.

Sodium sensitivity in nursery stock

We divide up nursery stock in groups based on salt sensitivity for sodium chloride (NaCl). Nursery stock irrigation water should contain less than 2.5 mmol/l for salt sensitive crops, and should have an EC of 0.6 mS/cm or lower. Nursery stock irrigation water should contain less than 5.0 mmol/l sodium for moderate sensitive nursery stock, and should have an EC of 1.3 mS/cm or lower. Too much sodium in the root environment can be corrected with extra irrigation with a good irrigation water quality. In the Dutch nursery stock paper Boom in Business July 2012 we wrote an article about recirculation in nursery stock.

Ing. R. Krikke
adviseur
Relab den Haan

IPM ESSEN

Features International Joint Booths

A total of 20 countries have organised one or even several community booths at the IPM ESSEN – in all areas. Guatemala is a new participant exhibiting cut flowers, potted plants and perennials. China, France, the United Kingdom, India and Taiwan have expanded their booths. And there are additional national booths from Belgium, Costa Rica, Denmark, the Netherlands, Israel, Italy, Portugal, Poland, Spain, Sri Lanka, South Korea, Turkey, Hungary and the United States.

Belgium

Around 40 Flemish companies are participating in the Belgian joint exhibition, which includes three stands again in Halls 2 and 12. In Hall 2, the focus is on ornamental plants, laurels, azaleas, rhododendrons and young plants. In addition, there are local businesses specialising in young house plants, chrysanthemums, garden plants and perennials. The six companies in Hall 12 are displaying trees, woodland and hedge plants, roses and ornamental bushes. Flemish exhibitors have been well represented at the trade fair with a joint booth since the first IPM ESSEN. (Hall 2, booth 2B25 and 2D30; Hall 12, booth 12C15)

China

The Chinese joint booth is organised by China Great Wall Exhibition. Compared to 2015, visitors can expect far more offerings: The size has doubled

and exhibitors have significantly more opportunities to present their extensive range of plants, seeds, flower pots and much more. For participants in the joint Chinese booth, the world's leading trade fair for horticulture is a good opportunity to have discussions with customers, develop business contacts and deepen long-term cooperation. (Hall 7, booth 7A09)

Costa Rica

Ornamental plants such as dragon trees, aglaonema, palms, ferns, crotons and ficus will be at the centre in a 50-square-metre booth with ten companies. For exhibitors, the fair is an important platform to attract new customers and maintain existing business contacts. The exhibition will take place under the "esencial Costa Rica" brand and offer a glimpse into the country's exotic and varied plants. Costa Rica has great natural biodiversity and offers a lot of high-quality exotic products. (Hall 1, booth 1B17)

Denmark

Around 50 exhibitors are showcasing the entire diverse spectrum of potted plants from their country in the Danish joint exhibit. Breeders, producers and distributors are presenting ornamental plants, room and garden plants and plant concepts. The trend here is toward functional and practical solutions. Special new products will be presented in their own booth. (Hall 5, booth 5A17)

France

The French joint exhibition includes three booths with a total of 20 exhibitors, including four new exhibitors. They are bringing a variety of novelties to the IPM ESSEN 2016 including photinia, witch hazel, sweet mini peppers and cucumbers for the terrace, cyclamen and dahlias. The breeders see white cyclamen in all sizes as well as dwarf dahlias as trends. The French joint exhibition will be organised by the Val'hor Horticulture Organisation with support from the Vegepolys innovation cluster and the SPPL Agency. (Hall 2, booth 2B17; Hall 10, booth 11B11; Hall 10, booth 10B14)

United Kingdom

The British joint exhibition offers more exhibitors, new varieties and innovative technologies. Under the umbrella of the Commercial Horticultural Association, companies are presenting their products at a total of three booths. Among them are many first-time exhibitors who are bringing new products to Essen – including new carnation varieties, clematis for small gardens and planting bags for tree breeders. They are also presenting solutions for greenhouse construction, heating and air circulation. As the partner country of the International Horticulture Forum, British experts will also discuss challenges and opportunities in the horticulture industry in the United Kingdom. (Hall 10, booth 10C13 and 10C17; Hall 3, booth 3B37)

Guatemala

Guatemalan exhibitors are keeping their joint booth very close to nature and emphasising the beauty of their plants and flowers. Thanks to varied and special climates, the country grows about 500 plant species and around 3,000 native plants as well as many others, which are exported in a variety of forms. Ten or so companies from all over Guatemala are presenting tropical plants, palms, bromeliads, cut flowers and cut foliage among other things. New products include succulents and large beaucarnea. (Hall 1, booth 1C37)

India

The Indian joint booth is operated by the State Coconut Association "Coir Board". Exhibitors are offering information about products made from coconut fibres. (Hall 3, booth 3A17)

Italy

Around 100 exhibitors from Italy will be represented at the IPM ESSEN 2016. The focal point, as in previous years, is Hall 6, the "Italian Hall", where primarily nurseries from all regions of Italy are presenting their products. There will be Mediterranean plants and trees in all sizes. A great deal of nurseries are from southern Italy in particular. The Italian Hall is rounded out with pots and decorative terra-cotta goods.

Other Italian companies are presenting the latest developments in greenhouse construction and agricultural

The future of growing



technology in the technology area in Halls 3, 7 and 8 Visitors can find young plants “made in Italy” in Hall 2. (Hall 6)

Netherlands

Flora Holland and BIZZ Holland are organising both Dutch booths. Under the auspices of BIZZ Holland, companies from Boskoop, Opheusden, Venlo and Zundert among others are exhibiting the latest decorative hedges, water plants and street trees. The plants submitted for the Show Your Colours Award 2016, which is organised by BIZZ Holland together with Messe Essen, are prominently displayed at the entrance of Hall 12 and the BIZZ Holland booth. (Flora Holland: Hall 1, booth 1B10; BIZZ Holland: Hall 12, booth 12A13/12A22)

Poland

There is strong participation again by Polish companies at the IPM ESSEN. 19 companies are exhibiting at the joint booth, which is organized by the Polish Nursery Association and the Agencja Promocji Zieleni. Exhibitors are displaying a large variety of plants – trees cultivated

in fields or grown in containers, bushes, perennials, vines and fruit plants of different sizes. Poland’s transitional climate is ideal for the production of hardy plants. Polish producers export their plants to several European countries as well as many distant countries such as the United States and Japan. (Hall 9.0, booth 9A55 and 9B42)

Portugal

Four companies are participating in the Portuguese joint booth. All of them have their production locations on the Algarve in the south of the country. The range offered by the exhibitors includes, amongst other items, dipladenias, laurels, hibiscuses, lawns, callistemons as well as a wide diversity of Mediterranean shrubs and climbing plants. (Hall 9.0, booth 9B61)

Spain

The Spanish joint booth occupies over 1,100 square metres, where 34 member companies are exhibiting their products under the umbrella of the FEPEX (Spanish Federation of Associations of Exporting Producers of Fruits, Vegetables, Flowers and Plants).

They come from the regions of Valencia, Catalonia, Galicia, Andalusia and the Canary Islands and specialise in the production and export of ornamental plants. All exhibitors use a system for ensuring the quality production of flowers and ornamental plants – including PPQS (Plant Production Quality System). (Hall 9, booth 9A17)

Sri Lanka

The Sri Lanka Coconut Development Authority organised the joint booth. Various products made of coconut fibre for the green industry can be found here. (Hall 8.0, booth 8B13)

Taiwan

The main role at the joint booth for Taiwan is played by plants, blooming potted flowers, miniature orchids and fresh-cut flowers. Visitors can also expect oncidium orchids, which are typical for the area and are one of Taiwan’s greatest floral exports. The booth where member companies are exhibiting their floral products is organised by the Taiwan Floriculture Exports Association. (Hall 1.0, booth 1B36)

Turkey

The Ornamental Plant Growers Association SÜSBİR is participating in the IPM ESSEN for the first time. It represents some 400 members and is the only organisation with public institutional status, representing the ornamental plant growers in Turkey. Ornamental plants and ornamental plant growers will be presented at the fair. (Hall 8, booth 8B45)

USA

The Southern U. S. Trade Association (SUSTA) supports plants producers from southern states participating in trade fairs. In 2016, the booth will be fully occupied again with companies from Florida, California, Puerto Rico, Louisiana and Tennessee. (Hall 2, booth 2A31)

There are also additional joint exhibitions from:

Israel (Hall 2, booth 2B15), Portugal (Hall 9.0, booth 9B61), South Korea (Hall 3.0, booth 3E74) Hungary (Hall 10, booth 10D10 and 10D11).

The World's Premier Show for

From plants to technology, floristry and garden features – the entire horticultural value chain is represented at the IPM ESSEN. No other trade fair provides such a comprehensive overview of the market. From 26 to 29 January 2016, around 1,600 exhibitors from over 45 nations will present their innovations to top trade and industry visitors from all over the world. The world's leading trade fair for horticulture is accompanied by a comprehensive programme. Fair trade will have its own exhibition area for the 34th IPM ESSEN.

All the market leaders have confirmed their participation in the world's largest and leading trading and information platform for the green industry. With about 105,000 square metres of exhibition space, the world's leading trade fair IPM ESSEN will once again occupy the entire Messe Essen exhibition centre. And the fair, which is under the

auspices of Federal Agriculture Minister Christian Schmidt, can hardly be surpassed in international participation.

Fair trade: an important issue for the green industry

Fair trade products are becoming increasingly important for sales. Awareness is growing among end users. After coffee, the second most popular fair trade product in Germany is cut flowers.

According to the latest annual report by TransFair, sales reached more than 118 million euros in 2014 and continue to rise. So fair trade, certification options and the various associated labels are playing an increasingly important role at the IPM ESSEN 2016. A compact presentation space is planned for exhibitors whose products have already been certified with a fair trade seal. How does fair trade work? What does fair trade mean? What are the standards? These questions and others are answered for visitors and exhibitors at an accompanying information and

discussion forum.

The Internationales Gartenbauforum

(International Horticulture Forum) and DIE GRÜNE STADT (THE GREEN CITY)

Some highlights of the extensive programme of presentations are already set. Great Britain is the partner country of the International Horticulture Forum on 28 January 2016.

In cooperation with INDEGA – Interessenvertretung der deutschen Industrie für den Gartenbau e. V. (Association for the Representation of the Interests of the German Horticulture Industry) and the Verlag Eugen Ulmer (Eugen Ulmer Publishing House), experts will be discussing the opportunities and challenges associated with gardening in the UK. Sue Biggs, Director General of the Royal Horticultural Society, will emphasise the importance of the United Kingdom as a partner country. She will visit the IPM ESSEN 2016 and give a short

welcoming speech during the opening ceremony.

On Wednesday, 27 January 2016, THE GREEN CITY foundation will host an information forum especially for urban planners, arboriculturalists, garden and landscape architects and municipal policy makers. The theme for 2016 is the green future – cities need new product choices.

Platform for award ceremonies

The IPM ESSEN is traditionally the place where the latest varieties of plants and creations, as well as innovative technology, are first presented and given awards. Now another prestigious award ceremony is joining the Neuheitsschaufenster ("New Product Showcase"), Show Your Colours Award and the INDEGA-IPM Innovation Award: For the first time, the AIPH (International Association of Horticultural Producers) is handing out the "International Grower of the Year Awards" at Messe Essen. Plant



Ornamental Horticulture



breeders from all around the world are honoured for their outstanding achievements in the categories of finished products, young plants and cut flowers.

Green City meeting point

Hall 1A is being transformed into the Green City during the IPM ESSEN. Green industry experts, organisations and associations will meet here. The Zentralverband Gartenbau e. V. (ZVG) (Central Horticultural Association) as well as the Landesverbände Gartenbau Rheinland und Westfalen-Lippe e. V. (Rhineland and Westphalia-Lippe Federal State Horticultural Associations) will discuss their services and offerings at the Information Centre. The 2016 ZVG presentation will be "Gesunde Zierpflanzen – eine Herausforderung an Produktion und Handel!?" (Healthy Ornamental Plants: A Challenge for Production and Trade!?)

Floristry at the highest level

In the Green City in the FDF Florist Event Centre, top international floristry is on the programme. The Fachverband deutscher Floristen e. V. – Bundesverband (Trade Association of German Florists – Federal Association) (FDF) stage shows will put

the stars of the scene in the spotlight. Marcel Schulz, German Master Florist and German participant in the Europa-Cup 2016, Mehmet Yilmaz, who started for Turkey in the World Cup for Florists in Berlin, and Elisabeth Schoenemann, 2010 Runner-up for Florists, State Prize Winner and Regional Master in North RhineWestphalia will be showing new best-selling floral arrangements. The "Floral Design" Group from North Rhine-Westphalia will present planted, arranged and potted spring flowers. At the Teachers of Floristry show, international teachers will provide insights into their teaching philosophy. The

stage show will be moderated by Gregor Lersch and Brigitte Heinrichs. The FDF will bring Korean top floristry to the IPM ESSEN 2016. Oh Myeon, master florist and Director of the Floral Art School in Seoul, Lim Kyoungtaek, and Kim Hyang Hak will delight visitors with flower styles made in Korea. The FDF will address the topics of future, vision and innovation in its 2016 presentations and informational offerings. Floral inspiration and new ideas for the successful positioning of the floral industry will be addressed in individual units on the topics of FDF Education, FDF Projects. 16, FDF Partner, FDF Future Lab and FDF Cloud.

New ideas for point of sale

The IPM ESSEN 2016 is presenting inspiring and innovative point-of-sale solutions at two exhibition spaces in the Green City in Hall 1A. At the BLOOM's Special Show and g&v CreativCenter, trade visitors will find fresh ideas for product presentation. Strong marketing concepts can be seen for both

classic as well as newer, trendy floristry.

Green Careers

The next generation of floristry professionals is a big issue at the IPM ESSEN. Pupils from grades 8 to 10 can experience green occupations first hand during the Training Day.

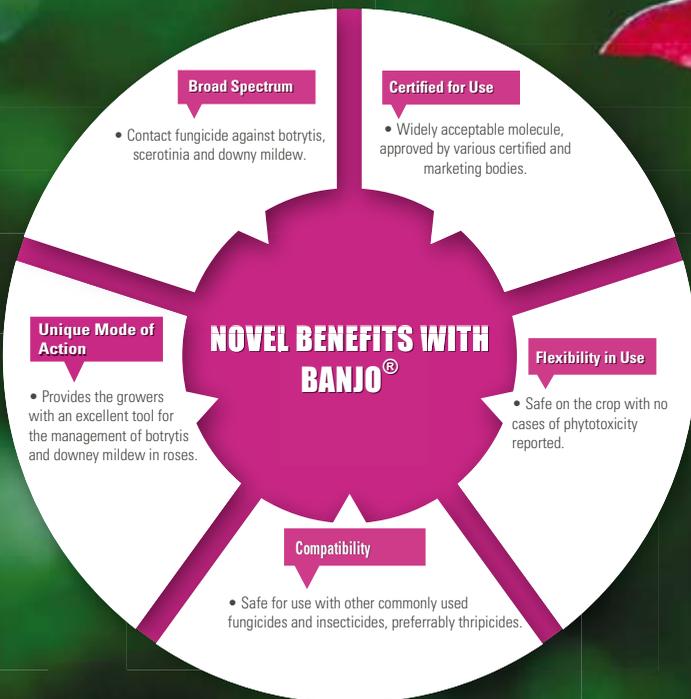
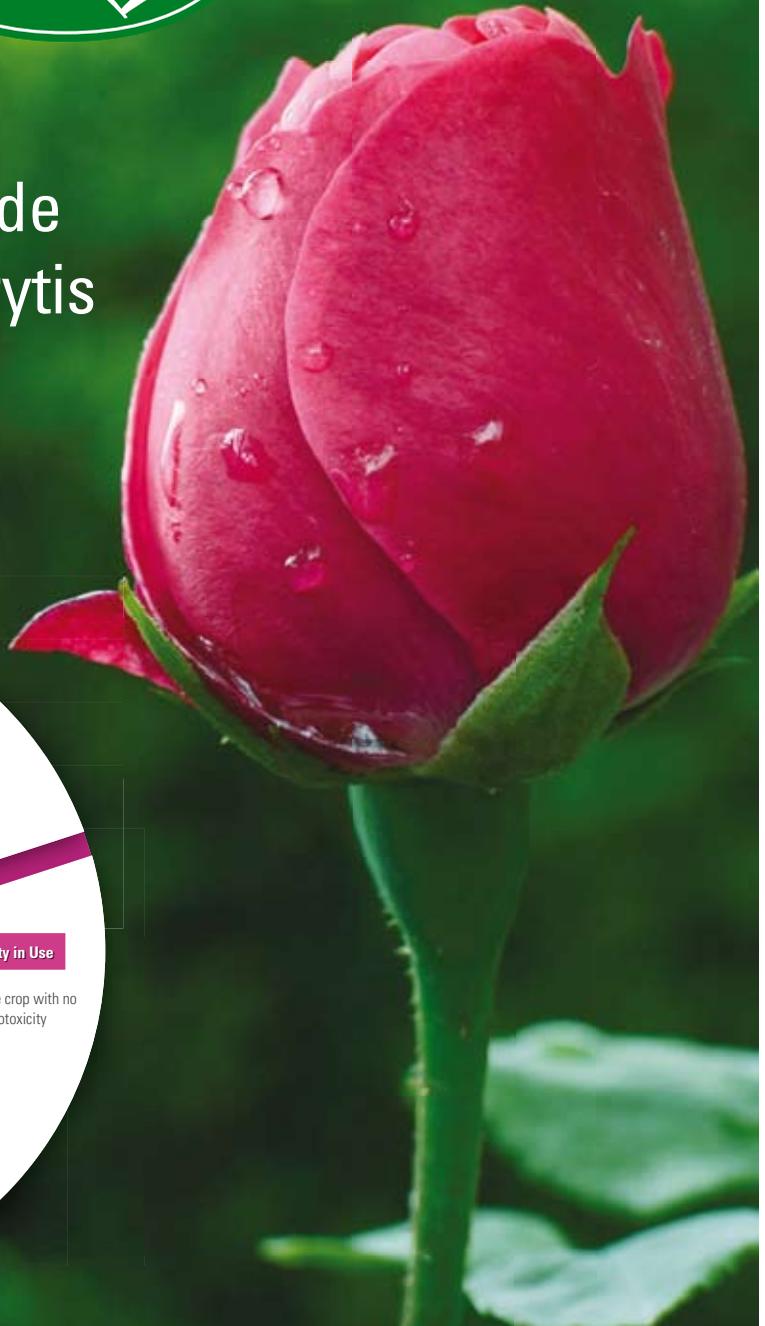
The Federal Ministry for Economic Affairs and Energy will be supporting a joint booth for young innovative companies again. And participating start-ups will have the exclusive opportunity to present their products for the first time to the world – at reasonable booth prices. In 2016, there is a greater need for exhibition space expected than in 2015.

The Green Careers Wall in Hall 4A offers the opportunity again this year for exhibitors to advertise job vacancies and visitors to post their interest in positions. The job exchange is offered in cooperation with the Verlag Eugen Ulmer (Eugen Ulmer Publishing House). This year, there will be "speed dating", where exhibiting companies introduce themselves to potential employees in personal conversations.





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Our Knowledge, Your Success

Youth

Consider a Career in Farming

The people who give this industry its extraordinary energy are some of the most innovative in the world and we want more young people to see food and farming as an attractive career.

Agricultural professionals are calling on young adults to consider a career in farming.

Research carried out has revealed that over three quarters, 80%, of young adults still have outdated perceptions of what careers in the industry actually involve – with 68% of those surveyed not considering a career in farming.

Promisingly, however, the study further uncovered that over a third of young adults selected criteria that match modern day careers in farming when they were asked to describe their ideal job – access to the latest technology, selected by 28%, flexible working hours, 56%, and variety in their day to day work.

A total of 41% of 16-24-year-olds matched the criteria needed for a modern day career in farming, according to the research.

With 39% of respondents to the poll saying they would like more information about careers in farming.

Encouraging new blood and talent to join the industry is crucial to ensure its long-term survival, with millions of employees needed by 2020 just to replace retiring farmers.

A career in horticulture gives young

people aged 16 and above the chance to work with some of the retailer's most progressive companies, many of whom use the latest innovations and technology in the sector – from learning the digital infrastructure of greenhouse computer systems to managing crop growth through the use of newest technologies.

Young graduates in this industry have a choice from farming to working with suppliers and researchers. They learn the practical aspects of their chosen career from harvesting; identifying and dealing with pests, diseases and disorders; planting; monitoring moisture and nutrients; pruning and use of state-of-the-art equipment and digital tools.

A flower farm manager, said: "Our research reveals there's a significant gap between what young people think of farming, and some of the jobs that are available today. We're passionate in playing our part to support the future of farming, and help attract young people into the industry.

A third of those surveyed, 31%, assume they need a family connection to break into the sector, which isn't the case. "We hope we can help show that there are a number of alternative routes into farming, and we'd encourage school leavers and young professionals to consider it. It's one of the most dynamic industries in the

world to work in."

In addition he, said food and farming is vital to our future, contributing a total of billions to the economy every year. "The people who give this industry its extraordinary energy are some of the most innovative in the world and we want more young people to see food and farming as an attractive career.

"Over the next few years we will open up more opportunities will be open for young people across the sector. We hope to see more leading businesses, like, providing our next generation of farmers with the skills, confidence and opportunities to grow our industry."

An attaché in one of the farms said he had never considered a career in agriculture or horticulture. "I'd never previously considered growing flowers as a potential career path but I've been very surprised about what this role actually involves," he said.

"From needing to know how to run a business and market a product, I've also been using my digital skills much more than I expected, for example to control the greenhouse through a modern computer system. I think a lot of people my age don't realise just how varied roles in this sector really are."

Ethylene: the invisible killer

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

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

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

Damage

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

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

Precautions

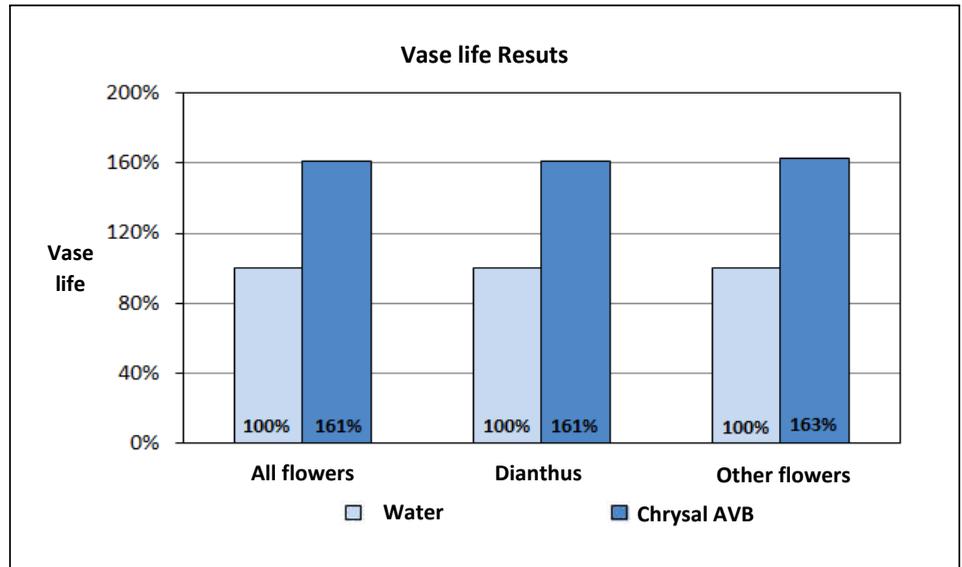
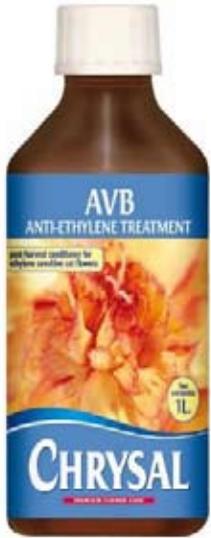
It is very important that growers strictly treat the ethylene sensitive flowers. For example when you notice in your vase life room that after only a few days your Carnations / Roses shrink, wilt, droop you can take it for granted that they have not been treated correctly.

TIP

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

Test Results

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



Vase life Alstroemeria



Treatment: WATER

Total vase life: 13 Days

Photo taken: Day 20



Treatment: Chrysal AVB

Total vase life: 19 Days

Photo taken: Day 20



MPS and Global GAP to Cooperate

“
Growers will be offered a one-stop solution: two certificates with a single audit, with the additional benefit of having access to the MPS-GAP Brand when these assessments are also combined with GRASP.

The two certification standards for flowers and plants agree cooperation. MPS and GLOBALG.A.P. have announced their agreement to work together and offer a synchronized certification solution for the horticultural sector.

The partnership will combine the MPS-ABC system with the GLOBALG.A.P. certification standard. Growers will be offered a one-stop solution: two certificates with a single audit, with the additional benefit of having access to the MPS-GAP Brand when these assessments are also combined with GRASP.

“Our aim is to offer a single point of entry for growers and their retail customers to demonstrate their progress towards sustainability”, said Theo de Groot, Director of MPS, “because we recognize the trend toward asking for more data and transparency in combination with good practice certification in the coming years.”

“We need to reduce complexity and eliminate duplication, thus offering a more cost-efficient solution for those producers who need to demonstrate compliance with both standards,” added Dr. Kristian Moeller, CEO of GLOBALG.A.P. “At the same time we have to take into account the growers’

legitimate data privacy requirements in our efforts to develop transparent, validated and integrated solutions.”

The cooperation is a non-exclusive partnership of two independent organizations as a response to emerging market demand for more collaboration and more flexible tools to demonstrate compliance with customer requirements.

It provides mutual advantages as it gives GLOBALG.A.P. a data analytics add-on and the ability to make use of the MPS Socially Qualified module, while MPS can tap into the network of GLOBALG.A.P.'s certification bodies.

A first pilot has been successfully conducted and promises to provide real savings to those producers who are required to show proof of both certificates. An audit for both GLOBALG.A.P. and MPS-ABC has been done at Gärtnersiedlung in Rain am Lech (Germany) by BCS.



WORLD FLORAL EXPO COMBINING 2 WORLDS OF FLOWERS

The California and South American growers were in the same exhibition together in what appeared to be perfect harmony. To me this was the most important take away for this latest show.

World Floral Expo is happy to announce that preparations are on track for its next edition in Los Angeles. The first edition that was held earlier this year in LA turned out to be a great success and brought a considerable number of US and international flower growers together in the LACC, the Convention Center of Los Angeles. The attending buyers were pleasantly surprised by the colorful mix of locally grown and imported cut flowers and expressed their satisfaction on attending the show. The cooperation with CalFlowers, the Californian Flower Growers & Shippers Association worked out very well and both CalFlowers and HPP (the organizer of the show) decided to continue the team working of promoting US grown and international grown cut flowers for the US market through World Floral Expo 2016. Based on this year's success and the strong growing interest from exhibitors for exhibit space in 2016, the organizers decided to change halls and move to another hall inside the LACC enlarging

available exhibit space from 50.000 square feet this year to 150.000 square feet in 2016, tripling the exhibit space. Besides an increasing interest from US flower growers so far, also the interest from growers from a.o. Ecuador, Kenya, Colombia and Ethiopia is growing strongly. For this reason there will be country pavilions from each of these 4 important flower growing countries, besides a lot of individual stands of their growers.

The show is meant for everybody who is buying and selling floral products with emphasis on fresh cut flowers. So from florists to big retailers and everybody in between, such as importers, wholesalers, wedding planners & other event planners, this trade show is the ideal platform to attend. World Floral expo is a yearly organized trade event for the US floriculture industry not to be missed, where everyone can source their floral needs for 2016. Besides a three day lasting display of the newest varieties of cut flowers and other floral products, workshops will be offered to attendees during show hours of the 3 day event, where everyone can actually create their own flower designs under the professional supervision of a team of Dutch flower designers. Registration is free of charge and can be done on line.

Bye... Downy

This El Niño

By Silah Koech

Hiiii...every one there, here are a few tip's on management and control of Downy mildew before the start of Elnino rainfall.

Use good quality plant and seed material with history of low disease incidence, selecting varieties with genetic resistance against the disease. Inspect new arrivals and reject or quarantine if in doubt.

Scout routinely (at least 2-3 times weekly) to identify diseased plants before the epidemic strike. Turn the leaves over to check for spatulation on the undersides of the leaves.

Reduce humidity by increasing plant spacing and air flow; avoid overhead irrigation, but if used, apply early in the day to allow for drying of the leaves by the afternoon if necessary check inside and outside temperature for catain management (Best known as manipulating the environment).

Do not hold plants between crop cycles; remove plant debris, hygiene is very very Paramount.

Chemicals for Downy mildew are available in the market. Chemical application should be considered preventative since once these diseases get started, curative action can rarely be achieved.

It's my take that with those few tips somebody somewhere within Eldoret and it's environs will agree with me. Ahsanteni.



Ethiopian Flower Industry Flourishing



Fontana Flowers to Start Operation in the Amhara Regional State of Ethiopia.

The Ethiopian flower industry is flourishing, with the help of government incentives and low labor costs.

The country is now the second-largest flower exporter in Africa, with over 100 flower growers on 1,700 hectares (17,000,000 square meters or 182,986,477 square feet).

“We are now second in Africa only to Kenya, and we expect to overtake them soon,” Berhanu Ludamo, Promotion and Information Service Head of Ethiopian Horticulture Producers Exporters Association said.

“Ethiopia earned \$250 million from horticulture export in 2014. The amount is expected to increase this year due to the expansion of horticulture farms,” Berhanu said. The area will grow to 3,000 hectares

Fontana Flowers will begin operation of its horticulture farm in Ethiopia at the cost of 11 million dollars.

The company has leased a 100 ha land at Wenjeta and Wegelta kebeles 20 Km from Bahir Dar in the Amhara Regional State. Currently Fontana, which has hired 1,300 employees, is clearing land for growing roses and for warehouse construction. The company will exclusively grow different cut rose varieties. It will first start growing on 65 ha, with a target revenue of 95.9 million US\$ a year.

The company will export to the traditional markets in the Netherlands, but it also has other direct markets in the Middle East.

Four horticulture companies are already in operation in Bahir Dar. In addition to Fontana, three other India-based companies have acquired investment licenses and land to engage in the horticulture sector. 90 ha of land is allocated to the companies with expected export revenue of 4.1 billion Br, Daniel said.

With the number of companies engaged in the flower exports currently reaching 90, more than 1,442 ha of land are under flower cultivation countrywide. The horticulture sector in general has developed above 12,552 ha of land, according to data obtained from Ethiopian Horticulture Development Agency (EHDA).

in the coming five years and the revenue is projected to increase to \$550 million, according to Berhanu.

Climate is a major competitive advantage. Parts of the country south of Addis Ababa are 2,000 meters (6,561 feet) above sea level, and this makes it an ideal environment for floriculture, according to Shiferaw Mitiku, a researcher and agricultural marketing consultant in Addis Ababa.

"The export-oriented agricultural policy, attractive incentives, macro-economic stability and cheap labor constitute the competitive edge for the Ethiopian flower industry," he said.

According to Ethiopian Investment code 2001, flower growers are offered "a five-year tax holiday, duty free imports, access to bank loans and farm lands as well as a 100 percent exemption from payment of export customs duties."

Berhanu said the competitive advantages are attracting foreign flower growers.

"They are coming from Kenya, Tanzania and Uganda and from Ecuador," Shiferaw said.

The Netherlands, which is the world center of the flower trade, is also investing in local flower farms.

Flower Firms Shifting Base To Ethiopia Over Taxes

Four Kenya-based flower firms have shifted to Ethiopia as a result of punitive taxes that are making the horticulture industry uncompetitive in the global market, industry players have said. Data from the Kenya National Bureau of Statistics (KNBS) indicates that earnings in the flower sector dropped by three per cent to Sh40 billion in the first eight months of the year compared to Sh41.5 billion the same period in 2014.

Jane Ngige, the chief executive of the Kenya Flower Council, says multiple taxation by the governments is negatively affecting the sector and is likely to pose an existential threat in the coming years if not reviewed.

Ms Ngige noted that flower farmers are paying taxes to the national and county governments as well as to other government agencies. "About four flower firms have shifted to other regional countries in the last few years because of the harsh tax regime and lack of incentives in the country," said Ms Ngige while declining to give the names of the firms.

Besides the four, she claimed one other flower farm has shifted operations to

neighbouring Uganda.

Flower farms pay agricultural produce cess and have to get single business permits from the counties. All flower farms are required to remit taxes to the Ministry of Irrigation, the Water Resource Management Authority (Warma) and the National Environment Management Authority (Nema).

"Paying taxes to the ministry of environment as well as to Warma and Nema, which are the agencies of the national government, is an act of double taxation that does not augur well with investors," she said.

The CEO added that counties have also introduced branding taxes where branded vehicles have to remit levies to any county they pass through at different rates. The lobby has been holding discussions with the two levels of government over the matter. "We are making some headway but it is taking long to reach a decision," she said.

The horticulture industry is a major forex earner contributing about three per cent to Kenya's GDP.



Flowers Get a Rosy Ride

Gizachew Wondimu, manager of one of the biggest farms, Gallica Flowers, which moved in 2008 from Ecuador to Ethiopia, told Anadolu Agency that “availability of adequate water and human labor encouraged the farm to move to Ethiopia.” “The farm is located at 2,600 meters above sea level, which is suitable for growing best quality flowers,” Gizachew said. “We grow 82 premium quality flower stems per hectare annually on average and export to Italy, France, Germany, Middle East, Korea, Japan, Russia, Cameroon, Nigeria and South Africa.”

“The farm exported 6 million best quality flower stems last year,” he said. Private investment will help the farm grow to one of the largest in Africa, Gizachew said. But the “Ethiopian brand” is not yet established in the world flower industry, according to Shiferaw. “Some countries re-export Ethiopian cut flowers and the brand disappears.”

“We have very few experts,” he said. “And incorporation of the rural community is also a serious issue,” he added.

A floriculture entrepreneur, who asked for anonymity, said that foreign investors, and foreign demand lead the industry.

“Local demand is insignificant,” he added. Berhanu said that the Netherlands is specialized in adding value to and re-exporting flowers it imports from different countries including Ethiopia.”

The Netherlands exported the highest dollar value worth of flowers amounting to \$4.7 billion during 2014. Brazil is also a competitor, although a newcomer to the industry, with \$25.8 million in flower exports in 2014.

Dutch floriculture in Ethiopia is reaching the global markets, however: Afriflora, from Ethiopia won a Dutch Flower Award on November 5.



Ethiopian Airlines (ET) has offered a discount to Ethiopian Horticulture Exporters using its cargo service. The offer came in response to the loss the export companies incurred due to the decrease in value of the Euro against the dollar and consequently Birr.

As of December 1, 2015, cargo prices will be reduced from the former rates by three to six per cent, a reduction by six to 10 US cents depending on the total volume sent. ET sends two flower laden cargo flights to Europe daily. Each plane carries 85tn. The 120 Ethiopian flower exporters now collectively pay 218,336 Br less each day, and 6.55 million Br less every month. The gesture, however, is not all philanthropic. Jet fuel prices have decreased significantly from where they were when ET's cargo prices were first set. Jet fuel was sold at 2.48 dollars a gallon in August 2014 but now costs 1.39 dollars, almost half of what it used to cost. “It's not a significant change,” said Zelalem Messele, chairperson of the Ethiopian Horticulture Producer Exporters Association (EHPEA), “but it is encouraging. The reduction in price came after inquiries from a steering committee on the side of both the Association and the Ethiopian Horticulture Development Agency, EHDA.

“We are happy,” said the Manager of Saron Rose Agro Farm, speaking about the discount he thought made a significant difference. Saron Rose, a flower farm located around Sebeta, saw its revenue decline up to 20pc as a direct cause of the declining value of the Euro, since, mid last year.

“The company already prefers working with ET; other airlines working in this region, Saudi Arabian Airlines, Gulf Air and Emirates, are more expensive,” he said, adding that Saron Rose used other airlines only when ET's cargo is full.

The Netherlands, which receives up to 80pc of the country's total flower exports, is one of the three destinations included in the markdown of cargo pricing; along with two airports in Belgium: Brussels and Liège. Horticulture, Ethiopia's fifth biggest foreign currency earner, which according to EHDA represented about 10pc of the total earnings of the country for the year 2013/14, bringing in over 245 million dollars, is now suffering from the diminishing value of the Euro. Because Europe is Ethiopia's biggest destination for horticultural exports, exporters in that sector are directly susceptible to changes that occur in the Euro's value.

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Ironearth provides iron in an easily absorbed form through foliage when sprayed on the leaves or through the roots when used through irrigation systems. It can be used for all horticultural and floricultural crops for correction of iron deficiency. In addition to iron, the presence of humic acids in Ironearth assists in improving the overall health of plants and resistance against stress. Applied to soils, it can improve the performance of regular fertilisers.

COMPOSITION OF IRONEARTH:

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- Stability pH range 6-11
- pH-value (in 20% solution) 8-9

DIRECTION FOR USE: PLEASE READ THE LABEL CAREFULLY

- Ironearth should be used for correction of iron deficiency, soil conditioning and increase of soil fertility.
- Mix the recommended amount into water (the chart below is a guideline) in a spray / mixing tank and apply as a foliar, drench or soil application through sprinkler, drip or surface irrigation systems.
- Ironearth can be used on its own or mixed with soluble fertiliser formulations (soluble NPK, MAP, DAP or urea) and herbicides. However always carry out a miscibility test before first application of a mixture.
- Always carry out a phytotoxicity test on a small area before large scale application.

CROP	RECOMMENDED FOLIAR APPLICATION	RECOMMENDED SOIL APPLICATION
Roses	0.5g/L week	40-50g / 100m ²
Green House Vegetables (tomatoes, peppers, eggplant, cucumbers, zucchini)	0.5-1g/L	6-8 Kg/Ha divided into several doses (1Kg/Ha)
Fruit Trees (citrus, banana)	5-10g/10L per tree	6-8 Kg/ (1Kg/Ha) or 100-150 g /tree
Field Vegetables (potatoes, beans, onions, tomatoes etc.)	1-1.5 Kg/1000L per Ha	4-6 Kg/Ha divided into several doses (1Kg/Ha)
Cereals (wheat, barley maize & other grains)	200g/L	4-6 Kg/Ha divided into several doses (1Kg/Ha)
Ornamental Plants, Trees & Shrubs, Grass	250g/L	6-8 Kg/Ha divided into several doses (1Kg/Ha)
All crops in general	300g/1000L water every 2-3 weeks	4-6 Kg/Ha divided into several doses (1Kg/Ha)

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Japan: Younger Generation do not Buy Flowers and Plants

By Market Insider

The younger generation does not attach much value to plants and flowers any more. It is a worldwide problem in the floriculture sector and the flower minded Japan also has to deal with it.

In Japan, flowers were often used for religious purposes, but over the years, increasingly more people do not have a religion. Consequently, the consumption of plants and flowers decreases. In particular, people under the age of 50 are buying less plants and flowers. Therefore, plants and flowers need to be promoted to these age groups.

One organization is doing this is Japan Floral Marketing Association (JFMA). Their mission is to boost the floral consumption and home-use flower market in Japan. Nobuya Kaishita, senior director of JFMA said. Over the years, the retail consumption of cut flowers, garden plants and materials in Japan decreased by 17%; "from 10 billion euros in 1998, to 8.3 billion euros in 2012," and "Especially the consumption of flowers and plants of people under the age of 50 years is low compared to people above this age," explains Kaishita.

According to him, the fact that 49 percent of the total Japanese population, and

increasingly younger people, do not have a religion is part of the cause for this decrease. "Many homes in Japan have a Buddhist family altar. Usually twice a month, people put Buddhist bouquets mainly consisted of chrysanthemums and carnations, in this altar.

However, due to the decrease in amount of Buddhists over the last years, this tradition also declined. Therefore, JMFA needs to promote flowers and plants in a different way to the 'younger' age groups," says Kaishita.

JFMA is putting a lot of effort into promoting flowers and plants and it expanded to organize 'Flowering Japan Council' as an integrated floral organization in Japan. "We need to show people how nice it is to have flowers in their lives," says Kaishita. They are trying to promote flowers in regular festivities, but they are also creating new events for flowers. They are, for example, promoting 'Flower Valentine's Day' and Halloween.

"Currently, only women give a gift, namely chocolate, to the men at Valentine's Day. Also Halloween is becoming increasingly popular in

Japan and Flowering Japan Council wants to enter these festivities with flowers," says Kaishita. Besides, MPS Japan run by JMFA also made a label that indicates the 'Freshness' of flowers and is called 'Relay Freshness'.

According to Kaishita, Japanese people like quality, and research revealed that Japanese consumers want to buy flowers with vase life of longer than one week. Therefore, in order to deliver the expected quality, MPS Japan came up with Relay Freshness. "It checks the post-harvest treatment at the farm, at the market and at the shop with the checklists created by MPS. If they comply with the checklist, they can put a sticker on the sleeve of the plant or flower.

According to Kaishita, it is a thorough job to promote flowers to the younger generation. Therefore, they are continuously looking for ways to promote flowers. "November 22, for example the pronunciation of this day (11-22) means 'good couple'. We try to make it a day where couples give each other a flower." Besides, Flowering Japan Council wants to introduce flowers in the casual gift giving market. "In 2010, the gift market of Japan was worth: 141.8 billion euros. This market is divided in casual gifts, personal gifts, seasonal gifts and corporate gifts.

The casual gift market, which was 21 percent of the total gift giving market at that time, is the only market that is still increasing. This is a new challenge which Flowering Japan Council should attack," says Kaishita. "If we can only have 10% of this market, it will boost the flower sector.

It is also known that the more the home use of flowers is penetrated, the more casually gift giving is spread." Flowering Japan Council is already trying to respond to this trend with Flower Weekend. "This is an ongoing promotion of giving or buying flowers at home for the weekend.

I hope that it will profit from the increasing trend of life with flowers and plants."

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Fresh Handlers Should Offer More

Specialists in the handling of perishable cargoes, aim to get goods to their destination on time, on budget and in optimum condition. They strive to find a solution that is absolutely right for you to transport your goods to any destination worldwide.



They need to be more than just freight forwarder and not just ship products to the destination or market destined. They should offer freight forwarding with added value, help in marketing strategy, advise on packing and quarantine requirements and put you in touch with local importers and buyers. If experienced in handling of perishables, they should help to identify potential problems and prevent costly mistakes before they happen.

Perishables – and your reputation – at stake, growers need a freight-forwarding partner dedicated to understanding their business, their product and their customers.

Transporting fresh product around the world is a highly specialized task. One needs a team with the know-how and the resources to give greater flexibility, certainty and creativity when it comes to perishable logistics.

Direct Market Enables us to Pass on our Story

Increasingly more growers are going to supply the direct market. Kenyan rose growers are noticing the advantages of supplying the direct market. When supplying sustainably grown roses to the direct market, they get an insight in the needs of their consumers. Moreover, they engage with their consumers and pass on their story

Sustainable production

From scratch, growers focus on limiting the environmental impact of rose farms by using beneficial insects, special composting and fertilizing techniques. Besides that, sustainable approach to growing has more advantages; it adds value to the rose. Its a natural product, feeding it and managing it more naturally with natural fertilizers and spraying programs makes a big difference on quality and vase life of the rose. And in order to bring the same quality to the customer, growers work with strict post harvest, like handling and cold chain, procedures.

Bringing the story to the market

As niche rose growers, they put a lot of effort in to growing as sustainably as possibly, and do their best to support workers and the local community to move forward. So, it is not just a rose that the consumer is buying, there is much more behind it. The story behind the product is very important, but is too often not told to or known by the end consumer. However, the direct market offers the possibility to pass on this story.

Over the last few years, the option for direct marketing in the world has become much easier for everyone. New communication channels and logistic networks opened up opportunities for growers to get more market feedback and engagement, but also for their target group, the smaller quality buyers, who could not reach them that easily in the past."Therefore, most growers are moving more of their varieties and marketing into a direct relationship. The ratio is changing yearly from more auction orientated to quality direct market orientated. Buying direct saves on cost and adds much more value to the product for everyone involved.

Keep on adding value

Besides increasing their volumes to the direct market, grower keep adding value to their farms. To add value they focus on perfecting their existing units in a more sustainable way to benefit the environment, management to detail and markets. Uprooting old varieties and finding new varieties to grow is a continuous process. Most farms always have one or two ha that is not in production.

Then are used to uproot or change varieties. And when choosing a new variety, it is important that this variety will be in demand for more than six years. So, also in this way the direct market can help. Then, they are closer to the market and end consumer and they will get more insight in to their current needs and the needs for the long term. Therefore, it enables them to decide on which varieties to grow in the future.

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FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
AAA- Flowers		Nakuru	Banerjee	0704788852	banerjee@aaagrowers.co.ke
AAA Growers	Vegetables/Flowers	Nairobi	Musa Sando	0787866022	sando@aaagrowers.co.ke
AAA-Chestnut		Narumoru	Kiai/Sando	0722944030	sando@aaagrowers.co.ke
AAA-Growers		Nakuru	Moses Sando	0787866022	sando@aaagrowers.co.ke
AAA-Hippo		Thika	Steve	0721778736	julius@aaagrowers.co.ke
AAA-Roses		Rumuruti	Julius Ruto	0720330039	turiagronomy@aaagrowers.co.ke
Acacia Farm-Sunripe		Naivasha	Antony	0711827785	naivasha@sunripe.co.ke
Africala		Limuru	Rob	0721-837968	sales@africala.com
African Blooms	Roses	Nakuru	Samir Chandorkar	0735384552	samir.chandorkar@xflorea.net
Afriscan Kenya Ltd	Hypericum	Naivasha	Reuben Kanyi	0723920237	
Agriflora Ltd	Flowers	Nakuru	Clement Kipngetchi		cngetich@sianroses.co.ke
Akina Farm	Roses	Nakuru	Arfhan	0722728441	arfhan@fontana.co.ke
Alani Gardens	Roses	Nakuru	Judith Zuurbier	0722 364 943	alani@alani-gardens.com
Altitude Flowers	Flowers	Nakuru	Dominic Koeh	0723684277	
Aquila Development Co	Roses	Naivasha	Prakash Shinde	0710791746	pm@aquilaflowers.com
Ayana Farm	Roses	Nakuru	Gideon Maina	0721178974	gideon@fontana.co.ke
Bamboo Farm-Sunripe		Nakuru	Reuben	0723920237	
Balaji	Roses	Olkalou	Balasaheblingawae	0735593016	balasaheb.ingawale4@gmail.com
Baraka Farm	Roses	Nakuru	Lucy	0720554106	lucy@barakaroses.com
Batian Flowers	Roses	Nanyuki	Dirk Looj	0720102237	dirk@batianflowers.com
Beautyline	Flowers	Naivasha	Peter Gathiaka	0722676925	peter@beautyli.com
Bigot Flowers	Flowers	Naivasha	Kakasaheb Jagtap	0722205271	jagtap.kt@bigotflowers.co.ke
Bila Shaka Flowers	Roses	Naivasha	Joost Zuurbier	0722204489	bilashaka.flowers@zuurbier.com
Bondent	Eryngiums	Nanyuki	Richard Fernandes	062-31023/6	bondent.production@karik.biz
Black Petals		Limuru	Nirzar Jundre	0722848560	nj@blackpetals.co.ke
Blissflora Ltd	Roses	Nakuru	Apachu Sachin	0789101060	appachu7@yahoo.com
Blue Sky		Naivasha	Mike	0720005294	info@blueskykenya.com
Blooming Dale Roses Kenya Ltd	Flowers	Nanyuki	Sunil	0718991182	info@bloomingdaleroses.com
Buds and Blooms		Nakuru	Shivaji	0720895911	shivaniiket@yahoo.com
Carnation Plants	Roses	Athiriver	Ami R.	0733626941	amir@exoticfields.com
Carzan Kipipiri	Flowers	Naivasha	Nicholas	0721844367	kipipiri.production@carzankenya.com
Carzan Kipipiri	Flowers	Naivasha	Justus Metto	0722755396	gm@carzankenya.com
Carzan Rongai	Flowers	Nakuru	Francis	0720890920	rongai.production@carzankenya.com
Carzan Rongai		Nakuru	Paul M.	0711838689	rongai.production@carzankenya.com
Charm Flowers	Flowers	Athiriver	Ashok Patel	020 352583	ashki@wananchi.com
Colour Crops	Hypericum	Nanyuki	Vincent	0721652231	colourcrops@tmu.com
Colour crops	Flowers	Nakuru	Maina	0722578684	bahati@colourcrops.com
Colour crops Naivasha	Flowers	Naivasha	Geoffrey Mwaura	0722200972	nva@colourcrops.com
Countrywide Connections		Nanyuki	Peterson Thuita	0724786004	bondet.production@kariki.biz
Delemere Pivot		Naivasha	Daniel Ondiek	0720395963	daniel.ondiek@vegpro-group.com
Desire Flowers	Flowers	Isinya	Rajat Chaohan	0724264653	rajatchaohan@hotmail.com
De ruiters	Breeder Roses	Naivasha	Fred Okinda	0722579204	Fred.okinda@deruiter.com
Double Dutch	Cuttings	Naivasha	James Opiyo	0723516172	Opiyojames160@gmail.com
Duro Farms (Rain Forest land)	Roses	Naivasha	Julius Kigamba	0723665509	jkigamba@fleurafrica.com
Elbur flora	Roses	Nakuru	Daniel Moge		
Enkasiti Thika	Flowers	Thika	Tambe	0734256798	enkasiti@gmail.com
Equator Roses	Flowers	Eldoret	Charles Mulemba	0721311279	cmulemba@sianroses.co.ke
Equinox	Flowers	Nanyuki	Tom Lawrence	07223125777	tom@equinoxflowers.com
Everflora Ltd.		Thika	-	0735873798	everflora@dmbgroup.com
Fairy Flowers	Flowers	Limuru	Sylvester	0753444237	sylvesterkahoro@yahoo.com
Fides Kenya Ltd	Cuttings	Embu	Francis Mwangi	068-30776	
Finlays Flamingo Farm	Flowers	Naivasha	Peter Mwangi	0722204505	peter.mwangi@finlays.net
Finlays- IbiS Farm	Flowers	Nanyuki	Purity Thigira	0722279176	purity.thigira@finlays.net
Finlays Kingfisher Farm	Flowers	Naivasha	Charles Njuki	0724391288	charles.njuki@finlays.net
Finlays Kingfisher Farm	Flowers	Naivasha	Jacob Wanyonyi	0722773560	jacob.wanyonyi@finlays.net
Finlays Ibis Farm	Vegetables	Nanyuki	Augustine Mwebia	0721447430	augustine.mwebia@finlays.net
Finlays-Siraji Farm	Carnations, Roses	Nanyuki	John Magara/Peris	0729050116	peris.ndegwa@finlays.net
Finlays -Kericho	Flowers	Kericho	Elijah Getiro	0722873539	elijah.getiro@finlays.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Finlays -Tarakwet	Flowers	Kericho	Japheth Langat	0722863527	japhet.langat@finlays.co.ke
Finlays Chemirel	Flowers	Kericho	Aggrey Simiyu	0722601639	aggrey.simiyu@finlays.co.ke
Finlays- Lemotit	Flowers	Kericho	Richard Siele	0721486313	richard.siele@finlays.co.ke
Flamingo flora	Roses	Njoro	Sam Nyoro	0721993857	s.ivor@flamingoflora.co.ke
Flora ola	Roses, Hypericum	Solai-Nakuru	Wafula	08382972	floraola1td@gmail.com
Flora Delight		Kiambu/ Limuru	Marco	0710802065	marcovansandijk@yahoo.com
Florensis Ltd	Cuttings	Naivasha	Anne Marie		annemarie@florensis.co.ke
Florenza	Roses	Nakuru	Yogesh	0715817369	
Fontana Ltd-Salgaa		Nakuru	Kimani	0733605219	production@fontana.co.ke
Fontana Ltd		Nakuru	Girrish Appana	0726089555	production@fontana.co.ke
Fox Ton Agri		Naivasha	Jim Fox	0722204816	jim@foxtonagri.com
Fpeak		Thika	Mutiso/Titus	0711214396	anthonymutiso@gmail.com
Frigoken K Ltd	Vegetables	Nairobi	Nicholas Kahiga	0722797547	nicholas.kahiga@frigoken.com
Gatoka Roses	Roses	Thika	Chris	0723408471	gatoka@swiftkenya.com
Gladioli Ltd		Naivasha	Pieriguichi / Claudia	0722206939	torres.palau@yahoo.com
Golden Tulip	Roses	Nakuru	Ravi	0723159076	ravi@bth.co.ke
Golden Tulip (Laurel Inter.)	Roses	Nakuru	Ashok	0738359459	ashok@btl.co.ke
Gorge Farm		Naivasha	Patrick Mulumu	0722498267	pmulumu@vegpro-group.com
Groove	Flowers	Naivasha	John Ngoni	0724448601	grovekenya@gmail.com
Hamwe	Hypericum	Naivasha	Peter Kamwara	0721758644	hamwe.fm@kariki.biz
Hamwe- Molo	Fowers	Nakuru	Joseph Juma	0725643942	production.fm@kudenga.co.ke
Harvest / Manjo Plants	Roses	Naivasha	Phanuel Ochungu	0722506026	phanuel.ochunga@gmail.com
Harvest Ltd	Roses	Athiriver	Mr. Farai Madziva	0722-849329	farai@harvestflowers.com
Highland plantations	Cuttings & Herbs	Olkalou	Amos Mwaura	0726726392	production@highlandplants.co.ke
Imani Flowers	Flowers	Nakuru	Moses	0722977214	
Indu Farm		Naivasha	Wesley Koech	0715546908	
Indu -Olerai Farm		Nakuru	Everline Debonga	0723383160	everlyne.adhiambo@indu-farm.com
Interplant Roses	Roses	Naivasha	Gavin Mouritzen	0733220333	info@interplantea.co.ke
Isinya	Flowers	Isinya	Pradeep	0736586059	pm@isinyaroses.com
Jatflora		Naivasha	James Oketch	0724418541	jatflora@gmail.com
Jesse AGA		Mweiga	Thuranira	0754444630	davidt@eaga.co.ke
Karen Roses	Flowers	Nairobi	Peter Mutinda	0723353414	pmutinda@karenroses.com
Kariki Ltd.		Thika	Samwel Kamau	0723721748	production@kariki.co.ke
Karuturi	Flowers	Naivasha	Rob		rob.paul@twigaroses.co.ke
Twiga Flowers	Flowers	Naivasha	pius Kimani	0721747623	pius.kimani@gmail.com
Kenflora Limited		Kiambu/ Limuru	Abdul Aleem	0722311468	info@kenflora.com
Kentalya		Naivasha	Linnet	0733549773	lynette@kentalya.com
Kenya Cuttings	Flowers	Ruiru	James Ouma	0725217284	john.odhiambo@syngenta.com
Kenya Cuttings	Flowers	Thika	Kavosi Philip	0721225540	philip.munyoki@syngenta.com
Kenya Pollen Flowers	Flowers	Thika	Joseph Ayieko	0733552500	joseph.ayieko@syngenta.com
KHE		Nanyuki	Elijah Mutiso	0722254757	mutiso@khekenya.com
Kisima Farm	Roses	Timau	Martin Dyer	0722593911	martin@kisima.co.ke
Kongoni River Farm-Gorge Farm	Roses	Naivasha	Anand Patil	0728608785	anand.patil@vegpro-group.com
Korongo Farm		Naivasha	Macharia	0721387216	
Kreative	Roses	Naivasha	Bas Smit	0722 200643	info@kordesroses.com
Lamorna Ltd	Roses	Naivasha	Mureithi	0722238474	admin@lamornaflores.com
Lathyflora		Limuru	Mbauni John	0721798710	mbaunij@yahoo.com
Lauren International	Flowers	Thika	Chris Ogutu/Carlos	0722783598	laurenflowers@accesskenya.co.ke
Lex International	Roses	Naivasha	Steve Outram	0733 609863	steve@lex-ea.com
Liki River	Flowers	Nanyuki	Madhav Lengare	0722202342	madhav@vegpro-group.com
Liki River	Flowers	Nanyuki	Nitin	0700000342	nitin.golam@vegpro-group.com
Livewire	Hypericum	Naivasha	Esau Onyango	0728606878	management@livewire.co.ke
Lobelia Ltd/ Sunland	Roses	Timau	Peter Viljoen	0721632877	info@lobelia.co.ke
Lolomarik	Roses	Nanyuki	Topper Murry	0715 727991	topper@lolomarik.com
Loldia Farm		Naivasha	Gary/Rotich	0720651363	
Longonot Horticulture		Naivasha	Chandu	0724639898	chandrakant.bache@vegpro-group.com
Longonot Horticulture		Naivasha	Patrick Mulumu	0722498267	patrick.mulumu@vegpro-group.com
Maasai Flowers	Flowers	Isinya	Andrew Tubei	0722728364	atubei@sianroses.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Magana	Roses	Nairobi	Lukas	0788695625	farmmanager@maganaflovers.com
Mahee	Roses	Nakuru	Senthil Bharathi	0789777145	maheefm@eaga.co.ke
Mahee Wilham	Vegetables	Nakuru	Missire	0754444629	maheevf@eaga.co.ke
Maji Mazuri Roses	Flowers	Eldoret	Wilfred Munyao	0725848912	wmunyao@majimazuri.co.ke
Maridadi Flowers	Flowers	Naivasha	Jack Kneppers	0733333289	jack@maridadiflowers.com
Maua Agritech	Flowers	Isinya	Madan Chavan	0738669799	production@mauaagritech.com
Mauflora	Roses	Nakuru	Mahesh	0787765684	mahesh@mauflora.co.ke
Milmet/Tindress Farms	Flowers	Nakuru	Pravin		pravinyadav.29@gmail.com
Molo River Roses	Flowers	Nakuru	A. Wambua	0724256592	awambua@moloriverroses.co.ke
Mwanzi Farm	Roses	Rumuruti	Peter Wekesa	0723027208	
Mt Elgon Flowers	Roses	Eldoret	Bob Anderson	0735329395,	bob@mtelgon.com
Mweiga Blooms	Flowers	Nanyuki	Stewart/ Mburu	0721674355	mweigablooms@wananchi.com
New holland - Laurel Investment	Roses	Nakuru	Ashok	0738359459	
Nini Farms	Roses	Naivasha	Menjo / Philip	0720611623	production@niniLtd.com
Nirp East Africa	Roses	Naivasha	Danielle Spinks	0702685581	danielles@nirpinternational.com
OI Njorowa	Roses	Naivasha	Charles Kinyanjui	0723986467	mbegufarm@iconnect.co.ke
Olij Kenya Ltd	Roses	Naivasha	Sally Nicholas	0737888028	v.bhosale@olijkenya.com
Oserian	Flowers	Naivasha	Musyoka Stephen	0722888377	stephen.musyoka@oserian.com
Panda Flowers	Roses	Naivasha	Chakra	0786143515	chakra@pandaflovers.co.ke
Panocol International	Roses	Eldoret	Mr. Paul Wekesa	0722748298	paul.wekesa@panocol.co.ke
Penta	Flowers	Thika	Tom Ochieng	0723904006	tom@wananchi.com
Preesman	Roses	Nakuru	Benard Ndungu	0721630887	
Pj Dave	Flowers	Isinya	Simiyu	0723500049	pjdavetimau@pidaveepz.com
Pj Flora	Flowers	Isinya	Palani Muthiah	0752607651	muthiah.palani1971@gmail.com
Pj Thande Farm		Kiambu/Limuru	Elizabeth Thande	0722380358	elizabeth@wetfarm.co.ke
Plantation Plants	Cuttings	Naivasha	William Momanyi	050 20 20282	pplants@kenyaweb.com
Porini Ltd	Flowers	Nakuru	Pitambar Ghahre	0726774955	porini@isinyaroses.com
PP Flora	Roses	Nakuru	Robert /Prakash	0718045200	ppflora2010@gmail.com
Primarosa	Flowers	Athi RiVer	Dilip Barge	0731000404	dilip@primarosaflovers.com
Primarosa	Roses	Nakuru	Kadam	0721274413	kadam@zuri.co.ke
Racemes Ltd		Naivasha	Bonny	0721938109	bonny@kenyaweb.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 Flowers Ltd	Flowers	Naivasha	Peterson Muchuri	0721216026	fm@riftvalleyroses.co.ke
Rimiflora Ltd		NaivaSha	Richard / Stephen	0722357678	richard@rimiflora.com
Riverdale Blooms Ltd		Thika	Antony Mutugi	0202095901	rdale@swiftkenya.com
Roseto	Roses	Nakuru			gm.roseto@megaspingroup.com
Rozzika Gardens –Kamuta Farm		Naivasha	Mbuthia	0721849045	jwachiram@yahoo.com
Savannah international	Geranium	Naivasha	Ignatius lukulu	0728424902	i.lukulu@savanna-international.com
Selecta Kenya		Thika	Alnoch Ludwig	0738572456	l.allnoch@selectakenya.com
Soljanmi	Fowers	Njoro	Kirani Nangare	0787787544	kiran.nangare@xflora.net
Schreus	Roses	Naivasha	Pradeep		
Shades Horticulture	Flowers	Isinya	Mishra	0722972018	info@shadeshorticulture.com
Shalimar Flowers	Flowers	Naivasha	Anabarasan	0733604890	anbarasan@eaga.co.ke
Sierra flowers Ltd	Flowers	Nakuru	Sherif	0787243952	farm.sierra@megaspingroup.com
Simbi Roses		Thika	Karue	067 44292	simbi@sansora.co.ke
Sirgoek Flowers	Flowers	Eldoret	Andrew Keitany	0715 946429	sirgeok@africaonline.co.ke
Solai Milmet/Tindress	Flowers	Nakuru	Ravindra	0788761964	tindressmilmet@gmail.com
Star Flowers Flowers	Flowers	Naivasha	Dinkar	0789487429	dinkar@vegpro-group.com
Subati Flowers	Flowers	Nakuru	Naren Patel	0712 584124	naren@subatiflowers.com
Subati Flowers	Flowers	Naivasha	Naren Patel	0712 584124	naren@subatiflowers.com
Suera Flowers Ltd	Flowers	Nakuru	George Buuri	0724622638	gbuuri@suerafarm.sgc.co.ke
Sun buds	Hypericum Gypsophilla, Army	Naivasha	Reuben Kanyi	0723920237	kanyireuben@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
Tambuzi	Roses	Nanyuki	Paul Salim	0722 716158	paul.salim@tambuzi.co.ke



FLOWER & VEGETABLE FARMS IN KENYA

FARM NAME	PRODUCT	LOCATION	CONTACT PERSON	TELEPHONE	E-MAIL
Terra nigra	Breeder--1ha	Naivasha	Peter van der meer		petervandermeer@terranigra.com
Timaflo Ltd	Flowers	Nanyuki	Simon van de Berg	0724443262	info@timaflo.com
Transebel		Thika	David Muchiri	0724646810	davidmuchiri@transebel.co.ke
Tropiflora		Kiambu/Limuru	Niraj		tropiflora@africaonline.co.ke
Tulaga	Roses	Naivasha	Steve Alai	0722659280	tulagaflower@africaonline.co.ke
Tk Farm		Nakuru	Gichuki	0721499043	davidgichuki20@yahoo.com
Uhuru Flowers	Flowers	Nanyuki	Ivan Freeman	0713889574	ivan@uhuruflowers.co.ke]
V.D.Berg Roses	Flowers	Naivasha	Johan Remeuus	0721868312	
Valentine Ltd		Kiambu/Limuru	Maera Simon	0721583501	simon.maera@valentinegrowers.com
Van Kleef Ltd	Roses	Nakuru	Judith Zuurbier	0722 364 943	judith@vankleef.nl
Vegpro K Ltd Vegetables		Nanyuki	John Kirunja	0729555499	john.kirunja@vegpro-group.com
Vegpro K Ltd	Vegetables	Nairobi	Judy Matheka	0721245173	jmatheka@vegpro-group.com
Vegpro K Ltd	Vegetables	Nanyuki	John Nduru	0722202341	jnduru@vegpro-group.com
WAC International	Breeder	Naivasha	Richard Mc Gonnell	0722810968	richard@wac-international.com
Waridi Ltd		Athiriver	P. D.Kadlag	0724-407889	kadlag@waridifarm.com
Wildfire	Flowers	Naivasha	Boniface Kiama	0722780811	roses@wildfire-flowers.com
Wilmer	Summer Flowers	Thika	Wilfred M.Kamami	0733714191	kamami@wilmar.co.ke
Winchester Farm	Flowers	Nairobi	Raphael Mulinge	0725848909	rmulinge@sianroses.co.ke
Windsor		Thika	Vikash	073705070	vikash@windsor-flowers.com
Xpression Flora		Nakuru	Mangesh Rosam	0720519397	mangesh.rasam@xflora.net
Zena	Roses	Thika	Arun Mishra	020 2328970	sales@zenaroses.co.ke
Zena Asai Farm	Roses	Eldoret	Laban Koima	0722554119	koima@zenaroses.co.ke
Zena Roses - Sosiani	Roses	Eldoret	Sylvester Saruni	0722635325	saruni@zenaroses.co.ke

FLOWER FARMS IN UGANDA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Rosebud	Ravi Kumar	Wakiso	0752 711 781	ravi.kumar@rosebudlimited.com
Roses	Maiye Estates	Premal	Kikwenda wakiso		premal@maiye.co.ug
Roses	Jambo flowers	Patrick Mutoro	Nakawuka Sisia Wakiso	(254) 726549791	pmutoro80@yahoo.co.uk
Roses	Pearl Flowers	Ragbhir Sandhu	Ntemagalo Wakiso	0772 72 55 67	pearl@utlonline.co.ug
Roses	Aurum flowers	Kunal Lodhia Shiva	Bulega, Katabi Wakiso	0752 733 578	kunal@ucil.biz
Roses	X-pressions	Ali Droiya	Katabi Wakiso	0712 787788	xpressions@utlonline.co.ug
Roses	Eruma roses	Kazibwe Lawrence	Mukono	0776 049987	kazibwe@erumaroses.com
Roses	Uga rose	Grace Mugisha	Katabi Wakiso	0772 452 425	ugarose@infocom.co.ug
Roses	Kajjansi	K.K rai	Kitende Wakiso	0752 722 128	kkrai@kajjansi-roses.com
Roses	Uganda Hortech	M.D hedge	Lugazi Mukono	0703 666 301	mdhedge@mehtagroup.com
Roses	Melissa Flowers	Tobby Maddison	Katabi Wakiso	0755 722 262	toby.maddison@melisa-flowers.com
Chrysanthemums	Fiduga	Jacques Schrier	Kiringente , Mpingi	0772 765 555	j.scherier@fiduga.com
Chrysanthemums	Royal Van Zanten	Jabber Abdul	Namaiba Mukono	0759 330 350	j.Abdul@royalvanzanten.com
Impatiens, poinsetia	Wagagai	Olav Boenders	Iwaka Bufulu Wakiso	0712 727377	olav@wagagai.com
Chrysanthemums	xclusive cuttings	Peter Benders	Gayaza- Zirowe rd	0757 777 700	pbenders@xclusiveuganda.com

FLOWER FARMS IN TANZANIA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Kili flora	Jerome Bruins	Arusha	255 27-25536 33	jbruins@habari.co.tz
Roses	Mt. Meru	Heikki Niskala	Arusha	255 27 2553385	office@mtmount-meru-flowers.com
Roses	Tengeru Flowers	Mark Ngalo Arusha	Tanzania	255 27 255 3834	teflo@africaonline.co.tz
Roses	Hortanzi	Mr Micheal Owen	Arusha	255 784 200 827	hortanziagm@cybernet.co.tz
Roses	La fleur de Afrique	Greysom Mrema	Arusha	0784 363 570	fda@ars.bol.co.tz
Hypericum	Kilimanjaro flair	Greg Emmanuel	Arusha	255 784 392 716	greg@kilimanjaroflair.com
Crysenthemums	Multi flower Ltd	Tjerk Scheltema	Arusha	255 27 250 1990	tjerk@arushacutting.com
Crysenthemums	Fides	Greg Emmanuel	Arusha	255 27 255 3148	fides@habari.co.tz
Crysenthemums	Dekker Bruins	Lucas Gerit	Arusha	255 27 255 3138	info@tfl.co.tz
Crysenthemums	Arusha cuttings	Tjerk Scheltema	Arusha	255 27 250 1990	tjerk@arushacutting.com



FLOWER FARMS IN ETHIOPIA

TYPE	FARM NAME	CONTACT PERSON	LOCATION	PHONE NUMBERS	E-MAIL
Roses	Linsen flowers	Peter Linsen	Holeta		Elinsenroset@ethionet.et
Roses	Karuturi Farm/Ethiopia meadows	Peter Pardoen	Holeta	0922 750602	Peter.Pardoen@karuturi.com
Roses	Alliance flowers	Navale	Holeta		navale@nehainternational.com
Roses	Ethio dream Rishi	Holeta	Ethiopia	011 23 72335	holeta@jittuhorticulture.com
Roses	Holeta Roses Navale	Holeta	Ethiopia		navale@nehainternational.com
Roses	Arsi Agricultural Mecahanization		Holeta		arsiflower@ethionet.et
Roses	Supra Flowers	Kaka Shinde	Holeta	0911 353187	kakashind@rediffmail.com
Roses	Agriflora	M. Asokan	Holeta	0922 397760	flowers@ethionet.et
Roses	KAF Flowers	Baker Elkadi	Holeta	251 913 202 460	baker-elkadi@yahoo.com
Roses	Rose Ethiopia	Betemarian Kiflu	Holeta	0911 91 22 81	betemariankiflu@yahoo.com
Roses	Ethio- Agricerft	Alazar	Holeta	0910 922 312	alazar@yahoo.com
Roses	Flowerama	Admin manager	Holeta	0912, 9311 81	flowerama@ethionet.et,
Roses	Dire flowers	Seifu Bededa	Holeta	251-11-5156888	dhf@ethionet.et
Roses	Addisfloracom P.L.C	Kitema Mihret	Holeta	0912 264190	tasfaw@addisflora.com
Roses	Joe flowers	Mihrtu Tafare	Holeta	0911 370519	miheretuta@yahoo.com
Roses	Enyi- Ethio	Teshale	Sebata	0911 464629	enyi@ethionet.et
Roses	Lafto Roses	Andrew Wanjala	Sebata	0922 116 184	irrigation@laftorose.com
Roses	Eden Roses	Vibhav Agarwal	Sebata	0930 011228	vaibhavaggarwal1@hotmail.com
Roses	Ethio-passion	Roshen	Sebata	0911 511 711	roshanmuthappa811@gmail.com
Roses	Golden Rose	Mr. Sunil	Sebata		
Roses	E.T Highlands		Sebata	0 911 50 21 47	bnf2etf@ethionet.et
Roses	Dire flowers 2	Abenet Fiktu	Sebata	0911 149 329	abifiktu@yahoo.com
Roses	Sharon Flowers		Sebata		saronfarm@ethionet.et
Roses	Zagwe roses	Melaku Terefe	Sebata	0912 426635	zagweflora@yahoo.com
Roses	Selam Flowers	Etsegenet Shitaye	Sebata	0913 198440	etstgshita@yahoo.com
Roses	Joy Tech	mulugeta Meles	Debra Zyeit	0911 302804	mulugeta@joytechplc.com
Roses	Dugda floriculture	sayalfe Adane	Debra Zyeit	0911 50 48 93	general@dugdaflora.com.et
Roses	Minayе flowers	Eyob Kabebe	Debra Zyeit	011-3728667/8/9	minayefarm@ethionet.et
Roses	Bukito Flowers	Anteneh Tesfaye	Debra Zyeit	0911 615571	
Roses	oilij	Bas Van der lee	Debra Zyeit	0911 507 307	b.vanderlee@oilijethiopia.com
Roses	Yassin Flowers	Tesfaye Gidissa	Debra zyeit	0911 89 78 56	kemevision@yahoo.com
Roses	Z. K Flowers	Abebe Mamo	Debra zyeit	0911 52 65 29	abemic/2006@yahoo.com
Roses	Friendship flowers	Alemayehu	Debra zyeit	(251)91 130 49 67	friendship.flowers@yahoo.com
oses	Evergreen farm	Hiwot	Debra zyeit	0912 18 5065	Hiwot.Ayaneh@yahoo.com
Roses	Rainbow colours	Tadessa Kelbessa	Debra zyeit	0911 389 729	rainfarm@yahoo.com
Roses	Sher	Ramesh Patil	Ziway	0912 131940	rmpatilpune@yahoo.com
Roses	Braam farm	Ben Braam	Ziway	0920 7462 70	braam.roses@hotmail.com
Roses	Sher- Koka farm	Alemitu Biru	Ziway	0912 09 78 24	
Roses	Ziway Roses	Ermiyas Solomon	Ziway	0921 094373	ermiasziwayroses@yahoo.com
Roses	Herbug	Hubb	Ziway		hubb@herburgroses.nil
Roses	AQ	Wim	Ziway		wimjr@aqroses.com
Hypericum	Margin par	Hayo Hamster	Holeta	251 911 505 845	marginpar@ethionet.et
Gypsophila	Tal Flowers	Mr. Uri	Sebata		uridago@walla.co.il
Hydragiums	Ewf Flowers	Humphrey	Sebata	0920 35 1931	production-manager@Ewf-flowers.com
pelargoniums	Red fox	Michel Zevenbergen	Ziway	0911 49 00 23	m.zevenberge@ethiopia.redfox.de
Hypericum	Abssinia flowers	Sendafa			ggh_link@ethionet.et
Geraniums	Ethiopia cuttings	Scott Morahan	Koka		scott.moharan@syngenta.com
Budding plants	Florensis Ethiopia	Netsanet Tadasse	Koka		flrensis@ethionet.et
Crysenthemums	Maranque	Mark Drissen	Merjetu	(251) 22 1190750,	md@maranqueplants.com
Freesia & Statice	Freesia Ethiopia	Ronald Vijvberg	Sebata	(251) 115 156259,	freesia@ethionet.et
Hypericum	Yelcona	Andreas	Sebata	0921 146 930	Andreasndieolens@hotmail.com

Bayer CropScience Launches a Chemical Weapon of Mass Destruction

"I wish I was a newspaper so I could be in your hands all day," Biheshimiwa alias digital Lady fumed as she approached the sitting room. Without mincing words or turning my eyes from the obituaries page I was reading, I fired back, "I too wish that you were a newspaper so that I would have a different one every day." This opened a canon of unprintable, which she vomited into my face and left me lying on the sofa set like a deflated condom. Unknowingly, all this had been caused by a brief assignment given to me by boss.

Earlier in the day, the editorial board had met. They went through all CVs in our third rate media house looking for someone to undertake a mission impossible. On my CV they read; Dr.(Debtor) Officer, BSC, (Bachelor of Stoning Cars) MPC (Mad People's Combination) UON (University of Nowhere) MBA (Masters in Anything) Harvard University, PHD, (Permanent Head Damage) in Laughtology, EKB (Elder of the Kitchen Budget), ETC (End of Thinking Capacity) Esquire. The CV was quite impressive to them and my boss to call me immediately.

"A certain Weapon of Mass Destruction (WMD) christened Luna Tranquility has been launched towards Powdery Mildew. According to an anonymous call, the WMD, which was launched from a Naivasha hotel, had caused the worst destruction to the sphaerotheca pannosa family since Hiroshima bombing." The board has settled on you to come up with an award winning obituary advert and enable them reclaim back their position as the leading horticultural media house. This is a brief assignment to a mission impossible", said my boss.

I escaped through the backdoor to my house then went straight to bed. Instantly, I fell asleep and my dreams took me to a nearby flower farm where impeccable sources had it that this WMD had wiped out all the powdery Mildew. According to the sphaerotheca pannosa family who requested anonymity, the disaster was caused by Luna Tranquility, a new broad spectrum fungicide, containing two active ingredients for the control of powdery mildew in roses. The source gave Fluopyram 125 g/l + Pyrimethanil 375 g/l as the dangerous combination.

A stone throw from where I stood was PRIP Workshop (Powdery Mildew Rest in Peace) a family owned business which had been sub-contracted to do millions of coffins for the dying powdery Mildew. "I came to inform you breakfast is ready and the king of sphaerotheca pannosa family has called for a Baraza at the leaf stadium to discuss this aftermath calamity," said lady voice. My scribe's instinct rose and immediately I proceeded to the stadium. In attendance were all clans of the fungi family. When the king stood, everyone was quiet. "Ladies and gentlemen of the fungi family, let me start by sending condolences to our brethrens of the powdery Mildew family and assure them, my government is doing everything to control this calamity.

Brethrens, allow me to tell you that, our all time enemy, Bayer CropScience, has launched a Weapon of Mass Destruction named Luna Tranquility. The missile was launched at a Naivasha hotel. The launch was attended by all growers in Kenya. According to our chemical weapons experts who attended the meeting, they

had unleashed an outstanding new fungicide for the control of Powdery Mildew. Immediately after receiving this information, we set a commission known as Sphaerotheca Pannosa Commission. The commission has worked tirelessly and their provisional report is encouraging. The missile is known to contain two tried and trusted modes of action. Floupyram blocks the electron transport in the respiration chain at the level of complex 11 different from strobilurines acting at complex 111. Pyrimethanil inhibits the secretion of fungal enzymes required for the infection process, thus cell destruction and nutrient acquisition process is stopped. Germtube extension and mycelium growth are inhibited.

Additionally, this new WMD protects leaves and petals (majority of active substance is on the surface), has continuous penetration (continue to penetrate the leaves overtime), has a acropetal (upward) systemicity (redistribution of the active into leaves by xylem; no downward movement) and has a translaminar efficacy (protection of non-treated areas). Luna Tranquility inhibits the pathogens at 3 important phases for disease extension: Germination, Incubation and Sporulation. This translates to prevention of the initial contaminations and further disease extension. It also has a low use rates.

With a favourable environmental and toxicological profile, it is compatible with IPM programs for it is harmless to predatory mites. According to the commission most farm managers have launched lethal attacks from their farms. Now, allow me to call our Government Chief Nuclear Phycist to take us through some slides.

When the government Chief Nuclear Phycist stood, he starts "Brethrens, I want you to watch keenly the three slides I will show. In slide one, Luna Tranquility stops and controls powdery mildew in various stages of the disease development cycle. Our second slide shows that Luna Tranquility offers unparalleled pre and post harvest disease protection while ensuring an inbuilt anti-resistance strategy due to different modes of action, target sites and chemical classes. Our last slide shows that Luna Tranquility ensures grower does not need to choose between the must haves of quality and quantity since the grower harvests the maximum numbers of marketable stems while ensuring they reach the market without botrytis thereby increasing customer satisfaction by having good looking flowers and expected vase life. In conclusion, brethrens of the powdery mildew clan flee any leaf known to have been hit by this missile.

Eureka! Eureka, I jumped only for my wife to aim a WFD (Weapon of Face Destruction) on me. Shut up, what is wrong with you? Why are you pretending to be Archimedes? This woke me up only to find that I was dreaming but thank God, I can now write the obituary and save my job.

"You must have been among the few who escaped from our mental institution," my boss said after I presented the death announcement. "I did it for a purpose but you can call them now as I have rested my case" I answered in a quick rejoinder.



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