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Horticultural Crops Development Authority

Serving the Horticulture Industry

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Horticulture for Food

VISION:

A globally competitive horticulture sector in Kenya.

MISSION:

To develop, promote, facilitate and co-ordinate growth of a commercially oriented horticulture industry through appropriate policies and technologies to enhance and sustain socio-economic development.

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Agricultural productivity in most sub-Saharan countries is 2-3 times lower than the world average and the production gap between developing and developed countries is widening. This situation is reflected in the production of most horticultural commodities in which per-capita productivity has declined.

Today's farmers produce less per hectare than their grandparents. When an increase in production is reported, a notable increase in land under production is the cause and not increased productivity per unit area. Major factors contributing to this decline are poor soils, decreasing land resources, minimal access to irrigation (only 4% of the land used for agricultural production is under irrigation) and drought which affects 33% of crops produced for food slightly and another 25% severely.

What mix of knowledge and technologies is required to expand production and increase productivity in Africa that can contribute to improving food, nutrition and income security? How can economies of scale be created?

Constraints to horticultural production

Horticulture commodities are predominantly produced by small (<1 acre) to medium scale farmers (10 acres) in sub-Saharan Africa (SSA) where only 10% of the land is considered

arable. For example, smallholder farmers in Kenya generate 40 to 50% of total exports and 90% of the commodities consumed locally.

Major constraints facing horticulture smallholder farmers include:

- High inputs costs
- Insecurity
- Poor building, farm and road infrastructure
- Inadequate extension support services
- Limited awareness on market access or market standards
- Limited farmer institutions/centres for specific training and information channelling related to horticulture hence minimal capacity building particularly in production.

Those smallholder farmers producing for export face additional challenges such as:

- Inaccurate trade data
- Limited compliance to regulatory standards i.e. good agricultural practices or trade standards
- food miles and
- Increasing freight charges.

Fertilizer Usage

Africa uses very little fertilizers in comparison to the rest of the world. Only 10% of the land in SSA is considered arable and some high yielding crops are mining the soil. For how long will Africa's soil continue to produce





sufficient crops to feed its population keeping in mind that 20 million require food aid and more than 200 million are food insecure?

More over there are limited funds available for production of horticultural commodities such as soil crops for biofuels on an industrial scale. Sub-Saharan Africa should build capacity and also increase the critical mass required to undertake research to produce drought tolerant horticultural crops which have minimal requirements of inorganic fertilizers.

There is need to apply the whole value chain approach including:

- Good agronomic and post harvest practices and marketing
- Using true to type, certified, pest and disease free plant material/seed to target farmers through subsidies and an efficient distribution system
- Linking farmers to robust markets and capacity building of farmer groups and other key stakeholders
- Awareness creation
- Capacity building on group management.

and diseases

- To study genetic diversity of plant-pathogens so as to develop appropriate control measures
- To facilitate rapid variety development through marker assisted selection

Food Safety

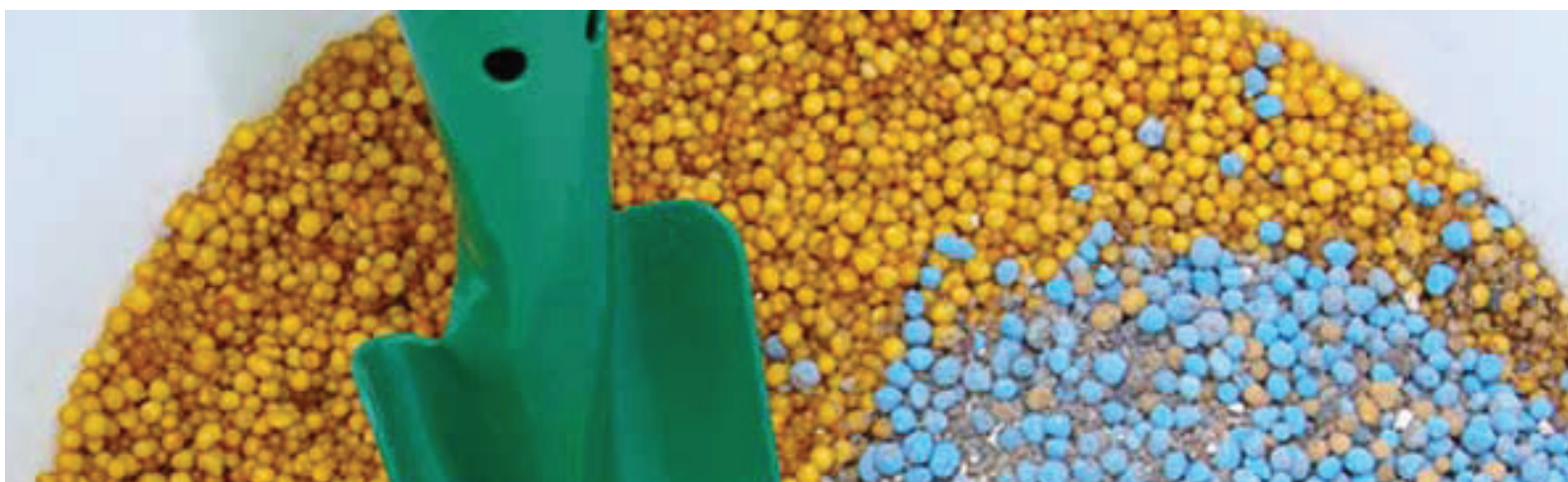
Developing countries that sell agricultural produce/products in Europe have to comply with sanitary and phytosanitary (SPS) requirements and good agricultural practices (GAPs). How will SSA comply with, adapt and adopt all the-GAPs'II?

For high value horticultural products, international regulations and standards related to food safety and quality will determine trade opportunities but must also safeguard health of the populations. Therefore, should corresponding national regulations not be developed and enforced for commodities for local or regional consumption and not only for the export that constitute 1-5% of the total horticultural production?

Should policies be set to ensure that GAPs are used for all commodities?

should focus on intended target commodities and expected outputs to trigger productivity in all the various sub-sectors which show potential. Most of the horticultural commodities in SSA are sold in their raw form at the lowest price especially when there is a glut. More income could be generated through value addition to reduce post-harvest losses and lengthen shelf-life.

Solution to overcoming the challenges and unlocking the potential of the horticultural sector in SSA is to form strong producer groups, producer marketing alliances and producer researcher working groups who also interact with policy makers. There is need for substantive investments in irrigation, biotechnology, plant breeding, post harvest technologies, fertigation, pest and disease management and food safety to sustain the projected growth indices.



Biotechnology

In Africa there is need to educate the population that a tissue cultured banana is not a genetically modified plant and that to obtain maximum yields, the plantlets require irrigation and fertilization. The Millennium Development Goals will not be realized in SSA unless advanced science and technologies such as biotechnology are adopted to increase food production, while simultaneously addressing health and food safety concerns and conserving the environment. Biotechnology can promote cross border trade because it can be used:

- For up-scaling production of high-value horticultural crops by rapid multiplication technologies such as micro-propagation (tissue culture)
- As a rapid diagnostic tool for pests

Climate change

Scientific reports show that Africa is the continent that will suffer most from climate change. Since most horticultural production is done under rain-fed conditions, climate change is a major concern.

There is need to increase investments in irrigation or water harvesting technologies and focus research on development of horticultural crops for arid and semi arid lands. The current technologies are developed for medium to high potential areas.

Enhancing horticultural productivity

It is a known fact that the potential value of several other horticultural crops per hectare is more than 6 times that of cereals. As such, the horticultural industry

Investment in horticultural research

At the Maputo declaration, NEPAD recommended that African governments allocate 10% of their budgets to stimulate agricultural development. Only three countries have achieved this; Malawi, Nigeria and South Africa. The majority of the countries invest less than 1% of their budget in agriculture and even a smaller fraction in research and development.

In Kenya, the agricultural sector receives only 1% of the national budget which is further subdivided with very little going to the horticultural sector. Horticulture contributes 58% of the agricultural GDP and it could therefore increase the proportion of funds allocated to research which is geared to increasing production of horticultural commodities for food and foreign exchange earnings.



Kenya needs to increase its investment in agricultural research and development to stimulate technology development leading to increased productivity.

Rising food prices and food crises

The rising cost for food can only be solved by increasing agricultural productivity. Horticultural production in the 21st century is less than in the 20th century. Kenya experienced a rapid increase (33%) of food prices from 2007 to 2008 for most crops particularly vegetable oils; recording a 97% increase from January to March 2008 when fuel prices increased by over 30%. When one looks at food security and socio economic development in SSA, there is a notable change in eating habits which can be attributed to several factors including changing food tastes. Populations in SSA are food insecure and the food consumed is of poor nutrition hence nutrition insecurity. To meet their food requirements, these countries import particularly cereals such as maize, rice and wheat and assorted processed horticultural products from regional and global markets. As cereals are now being used for biofuels in the western countries, availability of these commodities at affordable prices is compromised. Sub-Saharan Africa has to begin initiatives that will maximize horticultural production including:

- Implementing favourable national policies
- Fostering the development of holistic crop value chains
- Improving access to markets and reduce Post harvest losses
- Providing subsidies for farmers to access inputs (machinery, hybrid seed and fertilizer)
- Promoting and facilitating public-private partnership
- Increasing investment in research and technology including irrigation
- Reducing the cost of agricultural equipment and postharvest technologies
- Improving agricultural extension
- Developing new crops/varieties for the diverse ecological zones and to meet the challenges of climate change; and
- Documenting, characterizing and conserving indigenous varieties; fruits, vegetable, cereals, root crops, herbs and spices

Human and infrastructural capacity

Research and development capacity in SSA is very weak particularly in taxonomy, breeding, crop biotechnology and post harvest technologies to support increased production and productivity.

There is inadequate staff to support the current research projects and to deal with emerging issues in crop production and protection, post harvest handling and value addition, marketing and environmental conservation. Research centres and universities have poorly equipped laboratory facilities that lack

modern equipment to allow solving of problems along the horticultural value chain.

Small holder farmers cannot afford to pay for the services nor invest in the infrastructure required for many high value horticultural commodities (Wagner, 2005). Scientists have limited exposure to current technologies and information to improve their research performance. Policy makers and research leaders should urgently address these issues by providing opportunities for enhancing international research collaboration and establishing centres of excellence within SSA that can be used by national researchers.

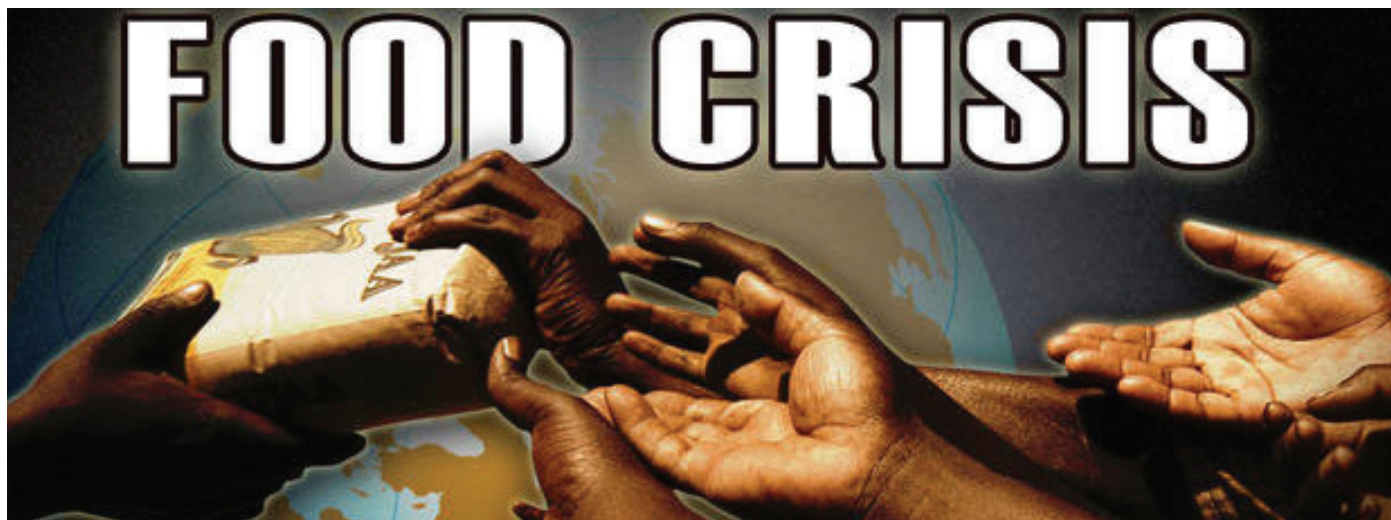
Food (carbon) miles

The question that resounds is, Are food miles fair miles (Anon, 2007)? The cost of air freight is high and will continue to rise if the price of fossil fuels continues to increase as was witnessed before September 2008. Countries and consumers are concerned about reducing their carbon footprint. How can SSA countries all subscribe to the Kenyan grown under the sun campaign with a goal to label produce with a logo showing that it was grown without contribution to green house gasses (Riungu, 2007)? Use of alternative sources of energy such as solar should be promoted (Kenya has the largest greenhouse powered by solar at Bilashaka Farm, Naivasha).

Promotion of drought tolerant biofuel crops such as jatropha should be initiated to help lower fuel prices. The potential of horticulture for food is under exploited and under valued. Productivity increases can be triggered by more investments in research and development, for example, research into drought tolerant horticultural crops or by higher investments in irrigation. Biotechnology (e.g. tissues culture) has a lot to offer when it comes to up-scaling the production of high value horticultural crops. But this must go along with education and extension about the possibilities and consequences of biotechnology. Investments must also be made to build human and infrastructural capacity through education and training and increasing exposure of scientists and other stakeholders to current technologies and information to improve performance.

Policy makers and research leaders should urgently provide opportunities for enhancing international research collaboration and building on existing centres of excellence in horticulture within SSA that can be used by national researchers. At the same time national policies within SSA should be set to comply with sanitary and phytosanitary (SPS) requirements and good agricultural practices (GAPs) to ensure food safety standards for local and regional consumption and meet international standards for horticultural export. These will enhance trade opportunities while at the same time safeguard the health of domestic consumers. Horticulture in SSA and the wider ACP region must flourish for food to feed the hungry and for trade.

Source: CTA, 2008.



Kenyan Lobbyists Oppose More Flower Farms

Kenyan Lobbyists Oppose More Flower Farms Civil society organisations marked the World Water Day with a special request to the government to stop any further licensing of flower farms in Naivasha. The lobbyists claimed that flower farms had been contaminating Kenya's water systems by disposing waste products in nearby lakes in total disregard of the laid down procedures.

Kenya Water and Sanitation Civil Society Network Secretary General, Stephen Muroto, said that the National Environmental Management Authority should investigate the flower farms, as well as by the ministries of water and public health, or as by any other line agencies. "Contamination is something that is manmade and can be avoided.

One of the problems is that the companies that are licensed are too many and the second is how they manage their waste so the best way forward is to stop any further licensing," he said. He further proposed that the government creates laws that would ensure flower farms took up projects aimed at saving the lakes as part of their performance contracts. "Policies should be done at the national level and would be implemented at the county level. We are likely to see

more water services boards and technical challenges that could make it difficult," he said.

Mr. Muroto also said that the country's ground water levels were declining and that Kenya should invest in long-term water harvesting systems. He said that the country needed to increase the capacity of water resources in order to handle the rising demand.

Source: Capital News 03/23/2011

Flower farm workers' pay raised

Flower farm workers in Naivasha, Kenya, will now get better wages and housing allowances. A collective agreement signed by the Kenya Plantation and Agricultural Workers Union and Oserian Development Flower Company granted unionised workers minimum wages of Sh 8,784 (US\$ 106) +10% from the previous Sh 7,997 (\$97) up to a maximum of Sh 24,341 (\$ 294).

The flower workers will also be paid a housing allowance of Sh 3,217 (US\$ 38.90), up 38% from Sh 2,333 (\$ 28.20). The Oserian director of administration, Mr Theodore Tsakirip urged other flower firms in Naivasha to follow suit and in-

crease minimum wages to avoid cases of labour unrest.

Central Organisation Trade Unions (Cotu) secretary-general Francis Atwoli confirmed the agreement yesterday after a meeting at the Federation of Kenya Employers offices in Nairobi.

Citing the Bill of Rights in the new constitution, Mr Atwoli said that the implementation of the agreement would start immediately. This is the third collective bargaining agreement that the Kenya Plantation and Agricultural Workers Union and the Oserian Development Flower Company have signed. Under the agreement, the over 400 workers will also be entitled to protective clothing to ensure that occupational health safety standards are met. Mr Atwoli said the workers will also be entitled to retirement benefits, paternity, and maternity leave and overtime pay. The Cotu called on other employers to follow suit and abide by the provisions of the Constitution, which stipulates that trade unions and employers have a right to engage in collective bargaining.

Source: Daily Nation 23/02/2011

The Netherlands Flower Auctions Notes

The February 2011 cut-flowers figures were published by the auction in the Netherlands as follows. The cut-flowers turn over has increased by 14.6% when compared to the same month of last year, realised with a supply increase of 6.7%, resulting in a total average price for all flowers together of 24 Eurocents per stem (last year 22.5 cents). Better prices were for nearly all products, except for freesias and hyacinths. Absolutely best prices were quoted for chrysanthemums, both for the single-headed ones as for the sprays, and for lilies.

The first week of March was the International Woman's Day week, when normally demand for cut flowers, especially for roses, carnations and chrysanthemums are very good. Also this year demand and sales were positive, especially for the major markets such as Russia, other Eastern European countries and Italy. Meanwhile, in many other countries, where carnival was celebrated, demand and sales were considerably lower than normally. The final total average price for all flowers ended up at 21 cents per stem, which was 3 cents lower when compared to the same week of last year, and it was the same price as in 2009.

As said, prices were lower for most of the products, but they were absolutely low for the whole range of bulb flower products, which were supplied in huge quantities. While supplies during January and February were much lower due to the cold weather in December, in March everything was really booming, and this is expected to remain so during the weeks to come.

Throughout the second week of the month, however, prices further slowed down drastically, especially for roses, gerberas, gypsophila, leucadendron safari sunset, asters, spray carnations, eustoma, trachelium and veronica. Remarkable were the extremely low prices for the small and medium sized roses and

also for the spray roses. Many quantities did not even reach the minimum price. This automatically resulted in a price zero, and those flowers were taken out of the market to be destroyed. A



bit too early in the season, but that is the supply and demand situation, which has been out of balance for sometime. As the auction spokesman said, the period between Woman's Day, the British Mother's Day and Easter was too long, and that caused lower demand and lower prices. Throughout the third and the fourth week of the month the market situation did not improve at all.

Prices remained very low, especially for the two major import product groups of roses and tulips. As during the second week of the month, many import roses did not receive any price, which was a shame, but also a reality. Hardly any special demand and sales were noticed for the British Mother's Day, taking place on Sunday, the 3rd of April. The major given reason was the availability of plenty of quantities, either originating from domestic production in England or originating from the Netherlands. Posi-



tive prices could be noticed for products like: hypericum, helianthus, limonium, ammi majus and delphinium.

Higher vat rate in UK has no impact on demand for flowers

Since January 2011 the VAT rate in the UK was raised from 17.5% to 20%. Dutch exporters have not so far mentioned any claims from their British customers about any effect on the demand for flowers in the country. "Consumers seems to accept this raise" they tell. Traders believe that this year business would grow. However, it is not easy to compare with recent years, since too many „special events had influenced the trade. Such as: hard winter, financial crisis, exchange-rate fluctuations, etc.

Some exporters mention that the UK flower market is still under a certain pressure. The real impact of the VAT raise might show up in the coming summer, when the special holidays and flower days were over, they say.

Source: Vakblad vd Bloemisterij 04/03/2011

Consumers Sceptical about Flowers at Petrol Stations

Consumers in Western Europe are sceptical about buying flowers and pot plants at petrol stations. Most of them would buy flowers at a gas station only when they need a "last minute gift" on their way. This is the finding of a research carried-out for the Dutch Horticulture Board PT in Germany, France, UK, and The Netherlands. Consumers have doubts about the quality of the flowers at gas stations. They believe the flowers do not look good and are not well presented. This does not stimulate consumers to buy flowers while stopping for a refill. However, the positive remark is that sometimes consumers are surprised about the long vase life of the flowers they bought. In the Netherlands consumers consider petrol station flowers as too expensive. In the UK consumers are the least happy about the attractiveness of the bouquets. In France, consumers are not familiar with buying flowers at the petrol stations.

Source: Vakblad vd Bloemisterij 03/03/2011

Dubai Flower Centre Quietly Passed Away

The ambitious project in Dubai's airport, aimed to become a global hub for flowers, is used for other products nowadays. According to Emirates airlines, the ultra-modern facility is currently used for other perishable products. The Dubai Flower Centre aimed to become the Middle East trading and logistic centre for flowers, which would bridge the floriculture trade between Africa, Asia, and Europe, with focus on African flowers to Japan and to Russia. However, it seems that the flower business did not take-off in this location. At the same time, Saudi Cargo started three freight flights per week from Nairobi, Kenya to Schiphol, the Netherlands. Because of the high demand for the transport of flowers, the airline will extend this service to five times a week in April.

For all flights, Saudi Cargo uses MD11-freighters with a maximum capacity of 80 tonnes. Even though Saudi Cargo aims to operate more flights to Schiphol, this will not be possible for the moment because all landing rights are used.

Source: Nieuwsblad Transport 02+10/03/2011

Cut flowers all countries

The total supplied quantities (domestic and import flowers

together) during the first quarter have increased with some 1.6% (Dutch flowers - 0.8% and import flowers + 6.8%), compared to the same period of last year; while the total average price per stem ended up exactly the same like to last year, and was 0.5% cents higher than in 2009.

The total increased supply of 60 million stems in 2011 derived from the two biggest product groups - roses and tulips. Other products of larger supplied quantities were: spray carnations and mini gerberas. On the other hand smaller quantities were supplied of the products: alstroemeria, standard carnations, chrysanthemums, large gerberas, hypericum, ornithogalum, solidago and wax flowers.

The market situation through out the first two months of the year was much better than last year, but throughout March all was considerably less favourable. Eventually, at the end of the first quarter the turnover increased in just around +2%, and all in all prices were not better. Prices were better during the Valentines Day, but they were disappointing during the events of International Womans Day and English Mothers Day.

Easter takes place at the end of April this year, while the Easter business of last year was mainly done in March. On the other hand much more flowers were sold, and more turnover was realised by the very good export results to Russia and Poland. Prices during the first quarter of 2011 were higher for: alstroemeria, ammi majus, anemones, carthamus, chrysanthemum, gypsophila, helianthus, limonium, ornithogalum, lilly longiflorum and proteas. Lower prices for: eustoma, large and spray roses, rudbeckia, solidago and trachelium.

Imported flowers

Import supplies were higher (+ 6.8%) this year during the first quarter, which growth rate was considerably lower than last year, when it was +14%. The total average price per stem for all flowers together was with 16 cents, exactly the same as last year and also in 2009.

Much lower supplied quantities this year of products like: alstroemeria, anemones, aster, standard carnations, carthamus, eustoma, large headed gerbera, gypsophila, helianthus, hypericum, leucadendron, lilies longiflorum, ornithogalum, protea, rudbeckia, ruscus, solidago, and veronica.

Much bigger quantities however of: ammi majus, spray carnations, delphinium, liatris, asiatic lilies, limonium and all roses.

Much lower prices were realised for: eustoma, all roses, rudbeckia, solidago and trachelium. Better prices for: ammi majus, anemones, carthamus, large headed gerberas, gypsophila, helianthus, lilies LA and longiflorum, limonium, ornithogalum, proteas and ranunculus.





Market Trends European Markets March 2011

Markets are characterized by big volumes of Southern Hemisphere fruits and diminishing prices. Asparagus: beginning of season for the European production (France, Spain, Greece, and Central Europe). Difficult commercialization and near end of season for overseas origins.

Avocado: with the Israeli season tending down the market is under



supplied and prices have continued to increase. Volumes of hass are diminishing from both Israel and Spain, stable but moderate from Kenya and Peru. Prices for green varieties are high and close to the quotation for hass. Near end of season for arad, wurtz and ardit from Israel; the first South African fuerte are on the market.

Grapes: big volumes of white seedless grapes continued to put

pressure on sales, prices decreased considerably. Beginning of season for Thomson seedless from India. Kaki: beginning of season for Brazil.

Kiwifruit: the opening of the marketing season for Chilean kiwifruit in the U.S. market observed prices similar to the previous seasons; the commercialization in Europe will nevertheless start in some more weeks due to the stocks of the European production.



Mango: the market has slightly improved. Volumes of sea-freighted



rent from Peru are smaller and quotations have firmed even though the price range is still large in some cases. Beginning of season for West African amélie and valencia from Mali and Burkina Faso. Mangoes from Central America (Guatemala and Costa Rica) are also on the market. Small availabilities and high prices for air freighted fruits from Peru.

Limes: prices are firm but

the price range for Brazilian fruits is huge (5-8 Euro/ctn) depending on products brands and color. High prices for sea freighted fruits from Mexico. Lychees: beginning of season for Thailand (airfreight) with prices exceeding 20 Euro/ctn.

Melons: beginning of season for Israeli galia (season running until the end of April). Big volumes and lower prices for green charantais in France; the first yellow charantais from Morocco and Senegal are available.

Pineapples: small volumes of sweet pineapple on the market. Prices are firm but remained on average as demand is low and expected to increase in correspondence of the Easter period only. The quotation for top brands is few cents above the price for common brands.

Stone fruits: the supply of peaches from the Southern Hemisphere



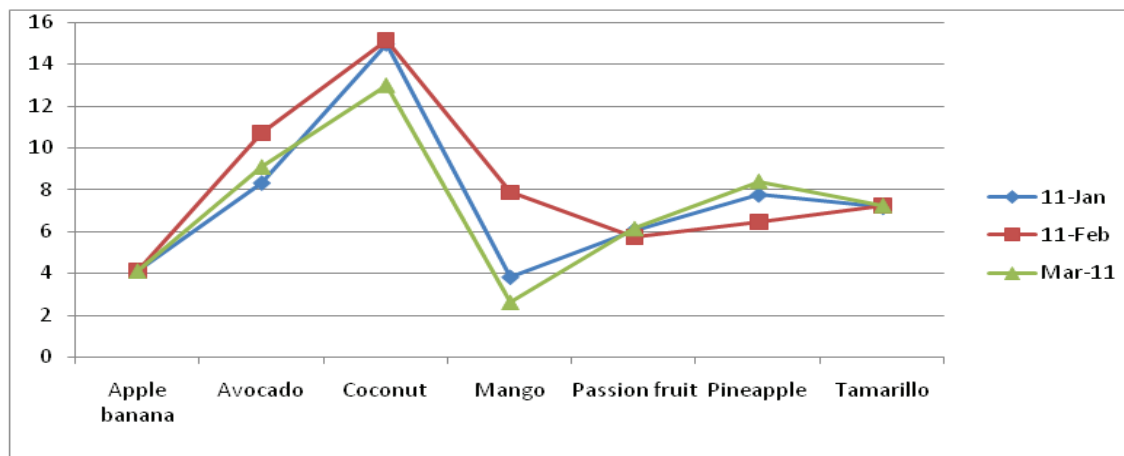
declined as the season came closer to its end. Markets observed high nectarine sales which will nevertheless observe a decline in volumes with the next arrivals. Greater participation in plums of the Angelino variety but sales rates were slow.

Analysis March 2011

Fruits

| | 11-Jan | 11-Feb | Mar-11 |
|---------------|--------|--------|--------|
| Apple banana | 4.142 | 4.125 | 4.125 |
| Avocado | 8.32 | 10.725 | 9.1 |
| Coconut | 14.947 | 15.15 | 13 |
| Mango | 3.83 | 7.875 | 2.625 |
| Passion fruit | 6.07 | 5.75 | 6.15 |
| Pineapple | 7.75 | 6.45 | 8.41 |
| Tamarillo | 7.16 | 7.25 | 7.26 |

The weight of export of product is packaging of 9*330 for apple banana, 4kg ctn by sea for avocado, 4kg ctn by sea for mango, 2kg ctn passion fruit, 2, 5 kg ctn. Avocado prices went up by 2.405 Euro i.e. 28.906%, mango prices also saw a high increase by 4.045 Euro i.e. 105.025%.

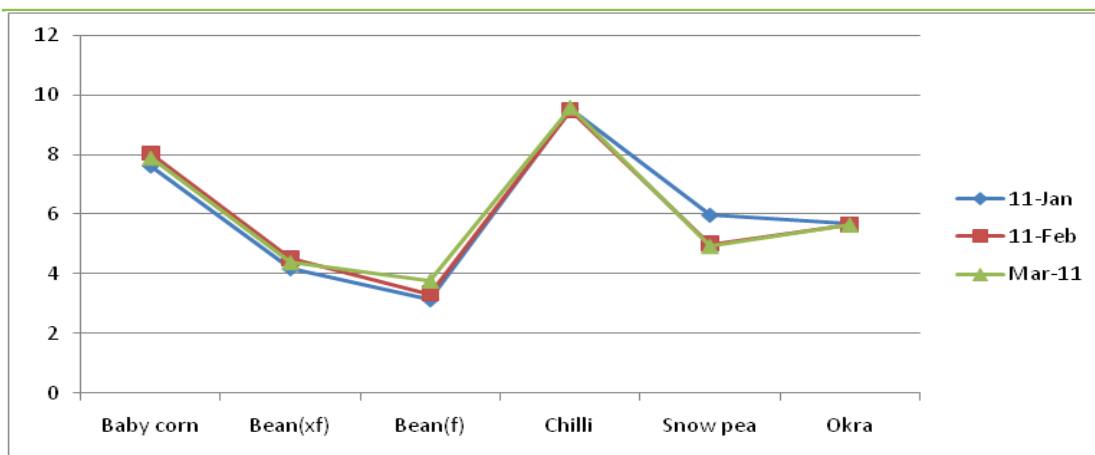


The avocado prices decreased by -1.625% i.e. 15.15% while pineapple prices increased by 1.96 i.e. 30.3875%. The fruits saw slight increases and decreases.

Vegetables

| | 11-Jan | 11-Feb | Mar-11 |
|-----------|--------|--------|--------|
| Baby corn | 7.62 | 8.04 | 7.89 |
| Bean(xf) | 4.17 | 4.52 | 4.38 |
| Bean(f) | 3.13 | 3.3285 | 3.76 |
| Chilli | 9.535 | 9.495 | 9.585 |
| Snow pea | 5.965 | 5.01 | 4.93 |
| Okra | 5.67 | 5.65 | 5.65 |

The weight for export are packaging of 12*125 for baby corn, 2.0-2.5kg ctn with prepacks of 12* 250 for beans(xf) and beans(f), for chili packaging is 12*100, snow pea 2kg ctn and okra is 1.8-2kg ctn. Baby corn saw an increase of prices by 0.42Euro i.e. 5.511186% while chillies saw a decrease by 0.04Euro i.e. -0.41%.

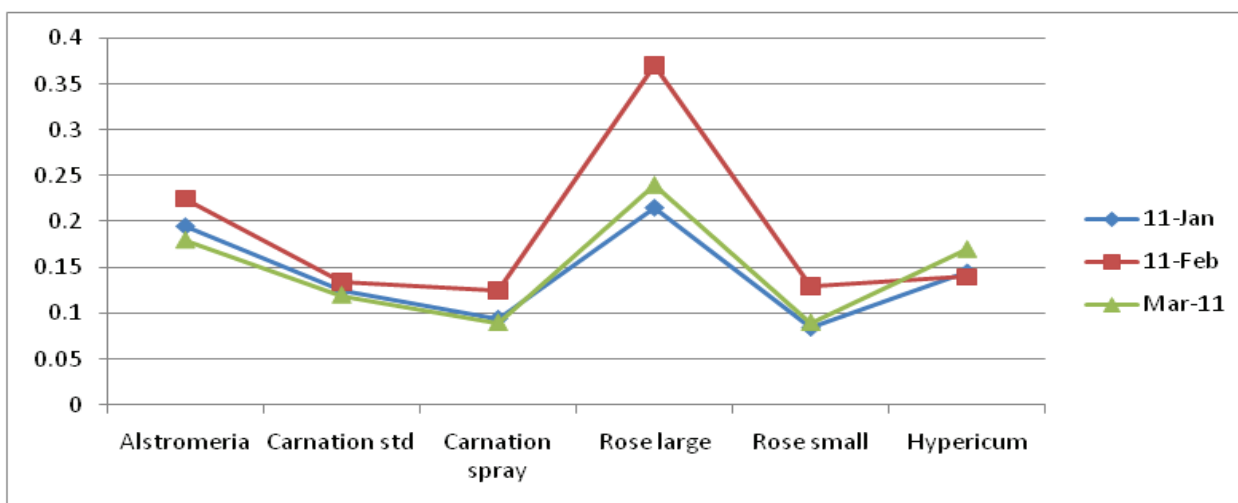


Vegetables saw slight decrease and increases in the month of March 2011 from February 2011.

Flowers

| | 11-Jan | 11-Feb | Mar-11 |
|-----------------|--------|--------|--------|
| Alstromeria | 0.195 | 0.225 | 0.18 |
| Carnation std | 0.125 | 0.135 | 0.12 |
| Carnation spray | 0.095 | 0.125 | 0.09 |
| Rose large | 0.215 | 0.37 | 0.24 |
| Rose small | 0.085 | 0.13 | 0.09 |
| Hypericum | 0.145 | 0.14 | 0.17 |

There was a general decrease in price of flower prices in the month of March 2011 from February 2011. Alstromeria prices decreased by 0.045 Euro i.e. 20% while rose large decreased by 0.13 Euro i.e. 35.135%.



The price of flowers is in stems.



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