

# The Global Fruit & Veg Newsletter



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2015



## The EGEA 2015 Statement

### Edito

As Scientific Coordinator of this newsletter, it gives me great pleasure to welcome you to the first issue of the Global Fruit and Vegetable Newsletter.

Scientific evidence is necessary for the development of effective and enforceable regulations and government policy. Since 2000, Aprifel has been providing literature monitoring and disseminating scientific information through its monthly national newsletter and its international conference EGEA to promote healthy eating rich in fruit and vegetables.

In 2005, Aprifel was a founding member of IFAVA, an international non-profit, non-governmental organization. IFAVA members share their experiences, programs, and strategies to increase the consumption of fruit and vegetables. An early initiative of IFAVA was to support the transition of the newsletter from national to an international level with the creation of the IFAVA Scientific Newsletter. The newsletter provides research capacity to smaller organizations that are unable to undertake research or scientific reviews. From 2006 to June 2015, the newsletter, under the direction of APRIFEL, has been a credible source of scientific information available to members for use and distribution. The edition of this newsletter would not have been possible without the commitment of more than 200 international authors who have contributed with original articles inspired from their work. Each monthly edition has honored our authors since 2006.

While member countries of IFAVA have continued to work in cooperation over the past 10 years, a similar coalition was formed in 2011 with 7 founding countries collectively known as AIAM5 (International Alliance of Associations and Movements «5 a Day»).

In March 2015, IFAVA agreed to join AIAM5. Future work and final name of the new network will be defined next November, during the XI AIAM5 International Congress to be held in Yucatan, Mexico.

The new network brings together both developed and developing countries involved in the promotion of the consumption of fruit and vegetables worldwide to improve public health, by sharing sound science and best practice.

To seal their union, both entities decided to take advantage of the existing IFAVA scientific newsletter to launch a new one that will allow spreading the valuable message of eating vegetables and fruit more broadly by extending its distribution to the 24 countries represented in both entities.

At EGEA conference 2015, held in Milan last June, Sue Lewis, IFAVA co-chair, announced the creation of the Global Fruit and Vegetable Newsletter that will be produced in English, French and Spanish and distributed to the 24 countries.

The EGEA conference was created by Aprifel in 2003, to lay the scientific basis for new policy options and practice changes. EGEA is a unique opportunity for the convergence of multidisciplinary approaches, from basic science, health, agriculture, communications, to global health policies.

The fresh produce sector and policy makers need to find innovative and sustainable ways to increase consumption of fresh produce. The EGEA 2015 closing statement advocates for establishing long-term policy changes moving towards advocating for healthy food. This Statement shared with the audience at the conclusion session by Professors Elio Riboli and Martin Caraher has been sent to all the participants for consultation until June 27<sup>th</sup>. I invite readers to discover the updated and final version of the EGEA 2015 Statement.

I look forward to sharing increasingly more resources and successes with you in the future and working with more entities concerned by the importance of promoting a healthy diet rich in fruit and vegetables.

Saida Barnat  
Aprifel Scientific Director - France

### A worldwide shared newsletter :

**P. Alvarado** • 5 a day Nicaragua  
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**P. Harycki** • 5 a day Poland • KUPS  
**H. Huss** • CO CONCEPT • Luxemburg  
**Z. Huszti** • 5 a day Hungary  
**S. Lauxen** • 5 am Tag Germany Corporation  
**S. Lewis** • Fruits & Veggies Half Your Plate! • Canada  
**C. Macias** • F&V Promotion Program of Cuba • Institute of Nutrition and Food Hygiene  
**E. Pivonka** • Fruits & Veggies - More Matters • USA  
**J. Rey** • 5 a day Spain • Association for the Promotion of consumption of F&V  
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**L. Troconis** • 5 A Day Program El Salvador  
**F. Vio** • 5 a day Chile Corporation  
**M. Winograd** • 5 a day Association Argentina



### Acknowledgement to 250 contributors since 2006

May 2006: **R. Lemaire**; **BM. Popkin**; **T. Norat** ;  
**J Blundell** (first edition)  
June 2006: **T. Gibault**; **J. Wardle**; **CA. Forestell**;  
**S. Nicklaus**; **L. Cooke** (Dietary behaviours 1)  
July/August 2006: **A. Trichopoulou**; **A. Yngve**;  
**A. Naska**; **D. Giugliano** & **K. Esposito**  
(Dietary behaviours 2)  
September 2006: **ML. Frelut** ; **MM. Hetherington**;  
**MI. Mesena**, **J. Fernandez**, **LA. Moreno**; **C. Maffei**s  
(September 2006 – Childhood obesity)  
October 2006: **MB. Schulze**; **P. Meneton**; **JM. Lecerf**;  
**L Dauchet** (F&V and cardiovascular health)

### Editions available on

[www.ifava.org](http://www.ifava.org)  
[www.aprifel.com](http://www.aprifel.com) and  
[www.halfyourplate.ca](http://www.halfyourplate.ca) (coming soon)

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CONTACTS INFO

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[www.aprifel.com](http://www.aprifel.com)  
[www.egeaconference.com](http://www.egeaconference.com)



## EGEA 2015 STATEMENT

### HEALTHY DIET, HEALTHY ENVIRONMENT WITHIN A FRUITFUL ECONOMY: THE ROLE OF FRUIT AND VEGETABLES

EGEA Conference - 7<sup>th</sup> Edition

June 3<sup>rd</sup> - 5<sup>th</sup> 2015

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Scientific Coordinator

S. Barnat - FR

Global nutrition and agricultural communities need to find innovative ways to create and support healthy eating environments and promote policies to increase fruit and vegetables (F&V) production and consumption. The aims are to improve public health, profitability of F&V growers and sustainability of the production systems. One way, among others, of achieving this is through taking biodiversity and nutrient-density of crops into account.

The problems of ill health throughout the world are now dominated by four major non communicable diseases (NCDs) - cardiovascular disease, chronic respiratory disease, cancer and diabetes – with escalating overweight/obesity rates, particularly in children, amplifying these immense societal burdens.

The co-existence of undernutrition, micronutrient deficiencies, NCDs and overweight/ obesity reinforces a renewed need to consider health and nutrition as a primary societal goal which requires a transformation in our food systems.

The financial costs of these eating patterns and nutrition related epidemics are already threatening health care and services (even in highly developed countries) and are now significantly impeding national economies.

As the leading cause of death globally, NCDs were responsible for 38 million (68%) of the world's 56 million deaths in 2012. More than 40% of them (16 million) were premature deaths under age 70 years with the burden of disability from NCDs being far greater.

The number of people with NCDs have increased due to the global rise in overweight and obesity which now costs the world \$2 trillion /year. Furthermore, over 1 billion adults are expected to be obese by 2030 if no major effort is made to reverse the current trend.

There is evidence that F&V consumption decreases the risk of cardiovascular diseases, obesity and diabetes, as well as certain types of cancer. Diet and physical inactivity accounts for over 10% of all global disabilities with F&V being dominant factors. This means that billions could be saved each year with disabilities markedly reduced if F&V intakes reached the recommended amount (at least 400g/d).

In their efforts to reduce the prevalence of NCDs, most developed as well as developing countries and governments acknowledge the World Health Organization's declaration for increased F&V consumption. Yet national F&V dietary recommendations are

often at odds with the same country's agricultural or food policies. A few examples illustrate this situation:

- Many high-income countries continue to provide producer subsidies for other products, such as grain crops and meat/dairy products, with little support for F&V production, leading to a global deficit in F&V supply and consumption.

- In the United States, F&V should make up 50% of consumers' plates/portions based on "MyPlate" dietary recommendations; yet the Department of Agriculture devotes less than 1% of its farm subsidies to support research, production and marketing for those foods and the whole of the US landscape is distorted by massive excess cereal production for animal feeding and subsidized export. In the U.S., the commodity crops receiving the largest amount of agricultural subsidies are grains, livestock, and dairy and under current agricultural policy, farmers are penalized for growing "specialty crops" (F&V) if they have received federal farm payments to grow other crops.

- In Europe, a fall of the consumption of fresh F&V has been observed over the last decade (nearly one piece of F&V per day/person). Yet, in the EU, close to €40 billion is spent on the farming sector with less than 3 % going to F&V sector while it delivers close to 18 % of total agricultural production value in the EU.

In the US and Europe, studies have shown that access and availability to fruit and vegetables are not evenly distributed among populations compared to less healthy products. Issues of access and availability can be tackled through proactive planning.

Besides the health aspects, the global agenda is now also dominated by climate change and the need for planetary sustainability, with locally produced F&V being much better than animal foods, for minimizing climate change and promoting sustainability. This reinforces the need for a coherent strategic shift in the food supply chain, manufacturing, retailing and in consumer demand. This is now accepted by Heads of State at the 2011 UN General Assembly. However, practically no coherent initiatives have been yet properly implemented.

**Policy responses that focus on increasing F&V consumption can achieve significant gains.** In high-income countries, most existing policies focus on school feeding initiatives and broader health promotion.

Comprehensive school food policies that set strict nutrition standards can increase children's consumption of F&V. Evidence shows that making F&V available in schools (e.g. through food or

nutrient-based standards and school fruit schemes) has a positive impact on daily F&V intake.

Such programmes work by overcoming barriers in terms of access to F&V and by encouraging children to learn healthy taste preferences and dietary behaviours that have been shown to extend beyond the school gate.

By contributing to increased daily F&V intake, food standards and school F&V programmes also help children eat well-balanced and diversified diets while meeting dietary and energy

recommendations and achieving a balanced caloric intake. Nevertheless, such efforts may be overwhelmed by the hundred fold greater marketing of unhealthy foods (High in Fat, Salt and Sugar- HFSS).

Modest regulatory and fiscal measures have been introduced but these are negligible compared with the huge, decades long, supply led subsidies by the EU and US which have induced the current distorted food system. Changes are needed to both the food system and food environment to influence the choices people make.



To enhance F&V consumption efficiently, there is an urgent need for coherent policies that promote healthy eating in the areas outlined below:

### A. Information and education

1. Authorize the use of consensual scientific research recommendations for claims on the benefits of fresh F&V consumption. Adopt nutrient profiles and health claims legislation in the EU based on WHO guidance.
2. Reinforce the role and responsibilities of public authorities in informing consumers on the positive assets of fresh produce and the benefit of a healthy diet rich in F&V.
3. Incorporate nutrition into the curricula in national education systems : it is important to develop food chain curricula linking production and consumption systems so that what is produced and consumed is also ecologically sustainable.
4. Develop nutritional guidelines for health professionals so that coherent nutrition advice and support is provided to the public and the media.

### B. Food environment

#### Marketing and advertising

1. Support the F&V sector's promotion and marketing efforts.
2. Involve the advertising and food industries, the media (TV, internet, radio, print, cinema, etc) and the retailers in taking into account F&V public health messages.
3. Regulate food marketing to children to reduce both the power of, and children's exposure to, marketing of unhealthy foods.

#### Healthy foods in public institutions

1. Establish F&V programmes in schools and extend provision from primary to secondary schools to create a seamless approach.
2. Set nutrition standards for foods provided in schools, universities, public worksite and health care institutions (e.g. in meals, vending machines).
3. Use public procurement as a tool to enhance F&V consumption by adapting guidelines and rules for public bodies (schools, hospitals and other health facilities, prisons, canteens) to use more fresh F&V in their menus.

#### Healthier retail environment

1. Reinforce the responsibilities of public sector in developing policies and infrastructure to increase access and availability to F&V in supermarkets and retail outlets, especially in underserved areas.
2. Planning authorities ensuring that access and availability to fruit and vegetables are part of municipal governance eg provision of markets for local produce.

#### Fiscal interventions and incentives

1. Set incentives for retailers and other outlets to increase the availability of healthier foods, especially fresh F&V.
2. Use economic and fiscal tools to create incentives for healthier food choices; this should combine a mix of tax-subsidy schemes. A tax on sugar, sweets and sweetened beverages should be studied alongside subsidy schemes for F&V for the potential to induce, among others, higher consumption of healthier alternatives such as F&V and to gauge any possible adverse effects of direct taxes.
3. F&V subsidies or vouchers to increase economic access for low-income consumers using tax-significant proceedings.

#### Food system

1. Ensure there is an adequate supply of F&V available to retailers.
2. Support and encourage the F&V supply chain to ensure that F&V reach consumers in minimally processed forms.
3. Support F&V production through similar policy instruments used for grain, meat and dairy production while taking account of the perishable nature of F&V and their nutrient composition (biodiversity).
4. Support F&V research to encourage farmers to increase their production of a variety of F&V, especially of micronutrient rich varieties and cultivars in line with countries' agro ecology and production capacities. Increased production rates will also increase jobs, creating a win-win situation for agriculture, employment and health.

#### Note to the editors:

The VII EGEA conference took place in Milan from 3-5 June 2015. This statement was adopted by EGEA as conclusion of its conference considering the valuable contributions from EGEA scientists, European Commission (DG Agriculture, DG SANTE, DG JRC), European Parliament, EPHA, FAO, IFAVA, WCRF International, WPHNA and the WHO.

Statement with references, abstract book, videos and photo gallery available on [www.egeaconference.com](http://www.egeaconference.com)



## 2015 EGEA POSTER AWARDS

4 Egea 2015 poster awards were delivered to laureates on June the 4<sup>th</sup> and the 5<sup>th</sup> by:  
**Christel Teysse**, President of APRIFEL, **Philippe Binard**, General Delegate of FRESHFEL,  
**Bruno Dupont**, President of INTERFEL, **Marie-Agnès Oberti**, Delegate for the fruit & vegetable Sector at FRANCEAGRIMER

### Fruits, vegetables and lung cancer risk: a systematic review and meta-analysis



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**Objective:** Lung cancer is the most common cause of cancer deaths. Although tobacco smoking is the main risk factor, diet is thought to play a role in its development. As part of the WCRF-AICR Continuous Update Project, we conducted a systematic review and meta-analysis of prospective studies to assess the dose-response relationship between fruits and vegetable intake, and incidence and mortality for lung cancer.

**Methods:** We searched PubMed up to December 2014 for relevant prospective studies. We estimated summary relative risks (RRs) and 95% confidence intervals (CIs) for the highest compared to the lowest intakes, conducted dose-response meta-analyses. We examined possible nonlinear associations using restricted cubic splines.

**Results:** When comparing the highest with the lowest intakes, the summary RR estimates were 0.85(95% CI: 0.77-0.93; 18 studies [n]) for fruit and vegetables, 0.90(95% CI: 0.85-0.96; n=24) for vegetables and 0.82(95% CI: 0.77-0.87; n=28) for fruits. The association with fruit and vegetables intake was marginally significant in current smokers and inverse but not significant in former or never smokers. Significant inverse dose-response associations were observed for fruit and vegetables (RR per 100 g increase: 0.96; 95% CI= 0.94-0.98, I<sup>2</sup> =63.9%, n(studies)=14, N(cases)=9609), vegetables (RR per 100 g: 0.94; 95% CI= 0.89-0.98, I<sup>2</sup> =47.9%, n=19, N=12 563), and fruits (RR per 100 g: 0.92; 95% CI= 0.89-0.95, I<sup>2</sup> =56.8%, n=23, N=14506) for fruits. There was evidence of a non-linear relationship (p < 0.01) between fruit and vegetables intake and lung cancer risk showing that no further benefit is obtained when increasing consumption above approximately 600 g per day.

**Conclusion:** Eliminating tobacco smoking is the best strategy to prevent lung cancer. Although residual confounding by smoking cannot be ruled out, the current evidence from prospective studies is consistent with a role of fruit and vegetables in lung cancer aetiology.

### Does the presence of brand equity characters on food packaging affect the taste preferences and food choices of children?



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Food marketing is a key factor contributing to childhood obesity. Packaging is an under-researched marketing activity, but could have a significant impact on the foods children choose. Licensed-characters, such as Shrek, on packaging have previously been shown to affect children's food choices and taste preferences in favour of the product they appear on. However, no study has examined the influence of brand equity characters (BEC) in this context. These are characters developed specifically to represent a particular brand/product, for example, Coco the Monkey for Kellogg's Cocopops. The use of licensed-characters in TV advertising is regulated in the UK, but BEC are currently exempt. Therefore, it is crucial that we increase our understanding of their impact on children's food choices, as they almost exclusively promote high fat, sugar, salt (HFSS) foods. In a mixed-measures design 136 children (4-8yrs) were asked to rate their taste preferences and preferred snack choice for three matched food pairs, presented to them either with/without BEC on packaging. Phase 1 addressed congruent food-character associations and Phase 2 addressed incongruent associations. Participants were also asked to rate recognition and liking of characters used. Children were significantly more likely to rate the food with a BEC present on packaging as tasting nicer than a matched food without a BEC, for both congruent and incongruent food-character associations. The presence of a BEC (congruent and incongruent) also significantly influenced the children's within-pair preferences, and overall snack choice (congruent associations only). This is consistent with findings for other types of promotional character, suggesting their use in promoting HFSS foods to children should be restricted. Further research could establish whether BEC could be a useful tool for the promotion of more healthful foods, such as fruit and vegetables, amongst children.

### Do we produce enough fruits and vegetables to meet global health need?



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**Objective:** Low fruit and vegetable (FV) intake is a leading risk factor for chronic disease globally, but much of the world's population does not consume the recommended servings of FV daily. We examine whether global and country-level supplies of FV are sufficient to meet current and growing population needs.

**Methodology:** We used global data on agricultural production and population size from the United Nations' 2009 Food Balance Sheets and World Population Prospects, respectively, to compare supply of FV in 2009 with population need, globally and in individual countries. Using agricultural production and population projections, we also estimated supply and need of FV for 2025 and 2050.

**Results:** We found that the global supply of FV falls, on average, 22% short of population need according to nutrition recommendations (supply:need ratio: 0.78 [Range: 0.05-2.01]). This ratio varies widely by country income level, with a median supply:need ratio of 0.42 and 1.02 in low-income and high-income countries, respectively. A sensitivity analysis accounting for need-side food wastage showed similar insufficiency, to a slightly greater extent (global supply:need ratio: 0.66, varying from 0.37 [low-income countries] to 0.77 [high-income countries]). Assuming medium fertility and projected growth in agricultural production, the global supply:need ratio for FV increases slightly to 0.81 by 2025 and to 0.88 by 2050, with similar patterns seen across country income levels. In a sensitivity analysis assuming no change from current levels of FV production, the global supply:need ratio for FV decreases to 0.66 by 2025 and to 0.57 by 2050.

**Conclusion:** Increased FV production and consumption are required to meet current and future population health needs, particularly in low-income countries.

### Mobile phone short messages service (SMS) related to healthy lifestyle for high school students: The CONVERGI Study.



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**Objective:** The widespread use of mobile phone among younger people could provide a new cost-effective tool to disseminate information on healthy lifestyle and to encourage modifications. This study evaluated the efficacy of SMS in promoting correct behaviours and improving metabolic health.

**Methods:** 430 boys and girls, aged 14-17 years, from two high schools in Campobasso (Italy), were assigned to either intervention or control according to their home school. At baseline, all students received biometric evaluations and answered a questionnaire on lifestyle and a one-week frequency food recall. Conferences and meeting with experts were organized in both schools to enhance knowledge and understanding correct lifestyles. Both groups received nine different SMSs, one every three weeks for one year. SMSs sent to the intervention group contained specific news and messages about healthy behaviour, while those sent to the control group contained scientific news. At the end of the intervention period, a follow up evaluation was carried on.

**Results:** Both groups showed an increase in all anthropometric parameters. The increase in waist circumference was significantly lower in the SMS group as compared to the control one, in both girls and boys (2.58 cm (0.99 to 4.16) in controls vs (0.24 cm (-0.99 to 1.48) in SMS, p<0.001 in girls and 2.14 cm (0.35 to 3.94) vs -0.47 cm (-2.36 to 1.42) in boys, p<0.0002, after adjustment for age and baseline levels). Similar results were observed in girls, but not in boys, for hip circumference (2.77 cm (1.69 to 3.86) vs 0.24 cm (-1.32 to 1.79), p<0.06). No significant difference was observed neither in physical activity nor in food frequency consumption.

**Conclusion:** Short messages delivered to teenagers through mobile phone may exert a favourable influence on anthropometric parameters. Further research is warranted on the efficacy of this new tool on behaviour and lifestyle.