

A GLOBAL PERSPECTIVE COUNTRY CASE STUDIES





5 A DAY PROGRAMS:

A GLOBAL PERSPECTIVE COUNTRY CASE STUDIES

Germany

Canada

Colombia

Costa Rica

Chile

Spain

United States

France

Mexico

New Zealand

Norway

SANTIAGO, CHILE 2020



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PRESENTATION

ANTONIO WALKER PRIETO, MINISTER OF AGRICULTURE, CHILE

For many years, the Ministry of Agriculture has been committed to support family farming agriculture in order to combat poverty in rural sectors of the country and position Chile as an agri-food and forestry power. In both cases, increasing the production and consumption of fruits and vegetables has been an essential function of the Ministry of Agriculture

The country has more than 340,000 hectares dedicated to the cultivation of fruits and close to 100,000 to the vegetables production. Thus, since 5 a day foundation in 2004 in Chile, the Ministry of Agriculture has supported 5 a Day Chile Corporation working side-by-side with its initiatives.

We have recently seen how October 8 has been identified as the National Fruit and Vegetable Day and during our visit to the FAO meeting in October 2018, we succeeded in reaching an agreement with the United Nations to move forward the International Year of Fruits and Vegetables to 2021. This initiative has been able to attract the support of international organizations, but even more so from other countries in Latin America and the world. In this context, we want to highlight this book that exposes the 11 countries experiences in promoting the consumption of fruits and vegetables worldwide.

With the current situation of the Coronavirus pandemic we need the joint effort of all countries to improve and maintain the diet of our citizens. This is a requirement that we must meet together and that is why, with the initiative of our Ministry, we have called a meeting with representatives of agriculture sectors from all the countries of America to work on food security to ensure that no one is short of food.

The contribution of a balanced diet based on healthy products, such as fruits and vegetables, is essential to protect the population from the scourge of a virus such as Covid-19. That is why, it is more necessary than ever to maintain the chain from producer to consumer to ensure the supply of these products, which has been maintained in our country without interruptions.

With this publication we want to share experiences from countries such as Germany, Canada, Colombia, Costa Rica, Chile, Spain, the United States, France, Mexico, Norway, New Zealand, and we thank these countries for showing their work in the promotion of fruits and vegetables. Finally, we also thank all the countries that have so enthusiastically supported the celebration of the International Year of Fruits and Vegetables this upcoming 2021.

INTRODUCTION

**FERNANDO VIO DEL RIO. INTA. UNIVERSITY OF CHILE.
5 A DAY CORPORATION CHILE**

Since the 2003 meeting in Kobe, Japan, the concept that promotes the need to consume fruits and vegetables as a protective factor when facing epidemics that in these past decades threaten us globally, such as obesity and chronic non-communicable diseases, especially cardiovascular diseases and cancer, has continued to expand worldwide. This has meant that many countries have taken on the initiative to promote the consumption of fruits and vegetables through the concept of 5 a Day, that is, eating at least 5 servings of fruits and vegetables per day in order to reach the minimum of 400 grams a day established by the World Health Organization in 2003.

The way in which different countries have done this promotion has been diverse and enriching, and since 2004, shared annually at Congresses attended by most of the countries that have a 5 a Day movement, up until the Global Alliance for the Promotion of the Consumption of Fruits and Vegetables “5 a Day” AIAM5 was created, which currently cover 38 entities from 31 countries. This exchange of experiences between countries is more necessary than ever with the current Coronavirus pandemic. No wonder American writer Siri Huvstedt recently stated “the virus has made our interdependence astonishingly evident”.

The world was not prepared to face the pandemic, despite having suffered recent and similar epidemics, such as SARS, bird flu, H1N1 influenza, MERS and Ebola. Never in present history has there been so much uncertainty regarding the near future, despite the immense progresses in science and technology worldwide. This crisis has demonstrated the fragility of man in the face of what nature can send us - in this case an unknown virus from the animal kingdom - against which scientific and technological innovations have yet been able to produce a vaccine or treatment, having to resort to ancestral behaviors such as quarantine, with an aftermath of thousands of deaths, a worldwide economic crisis and serious psychological damage as a result of social isolation.

What is clear is that the better prepared people are to resist the attack of the virus, the better their chances are of not getting sick, recovering and not dying. In this sense, a healthy diet with a high content of fiber, antioxidants and bioactive products that protect health, such as those contained in fruits and vegetables, can help human beings. Scientific evidence in recent years abounds in protective examples of fruits and vegetables thanks to their components,

especially antioxidants. A positive effect of human isolation during the pandemic is that people have had time to cook, bringing back custom dishes which many are packed with fruits, vegetables and legumes, constituting an opportunity to increase their consumption.

Furthermore, in most countries the chain from producer to consumer has been maintained, which has facilitated access to plant products. Another positive effect of the pandemic has been on the environment. Many cities in the world have seen how their air has completely cleaned in a few weeks, how flora and fauna have regained space and how some wild animals have returned to the cities. This has made the world reflect on how development is affecting the environment and its citizens.

That is why we must change our relationship with the environment from a food perspective, producing more sustainable food. The large production of CO₂ by the livestock and cereal industry, as well as the deforestation that takes place to make space for extensive fields and prairies of sugar, barley, rye, soybean and corn crops, which mostly go to feed animals or towards the production of processed foods, makes a diet based mainly on meat and cereals not sustainable in the long term. That is why Dr. Walter Willet of the EAT Lancet Commission stated that “the global consumption of fruits, vegetables, nuts and legumes should double and the consumption of red meat and sugars be reduced by more than 50%. A diet rich in plant origin and less foods from animal origin confers to good health and environmental benefits” (<https://www.thelancet.com/commissions/EAT>).

The experiences of each country exposed in this book open up an immense opportunity for collaboration through enriching experiences that can be replicated in other countries, improving production, distribution, reduction, consumption, and a use for losses and waste. Furthermore, the different realities exposed here will be an important input for the implementation of policies and programs in the International Year of Fruits and Vegetables approved by the United Nations General Assembly for the year 2021.



COUNTRY CASE STUDIES

The case study from 11 countries belonging to AIAM5 are included below, presenting us with information on the creation of each program, current consumption levels of fruits and vegetables, main strategies used for dissemination, activities, lines of action and challenges.



GERMANY

5 AM TAG OBST UND GEMÜSE. FEDERAL REPUBLIC OF GERMANY 5 A DAY FRUITS AND VEGETABLES

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BACKGROUND

The average consumption of vegetables and fruits in Germany is approximately 40% lower than the levels recommended by leading scientists and nutritionists. On average, women consume 3.1 and men 2.4 portions of fruit and vegetables per day. Moreover, only 15% of women and 7% of men reach the recommended quantity of five portions per day. Fruit intake increases in both men and women up to the age of 60–69 years. About 39% of women and 25% of men consume at least three portions of fruit and vegetables per day (1). In comparison, other European countries, particularly those around the Mediterranean, have considerably higher levels of consumption and correspondingly lower levels of nutrition-related diseases.

The comparatively low level of fruit and vegetable consumption in Germany and the scientific evidence from epidemiological studies on the health benefits of higher levels of consumption (2) suggests that an improvement in the health of the population in Germany (and a corresponding saving in health-care costs) could be achieved by a campaign to encourage consumption of at least 5 servings of fruit and vegetables a day, and to provide information on the health benefits of increased levels of consumption.

CAMPAIGN OBJECTIVES

The Campaign is based on a mutual-benefit association, which was established in May 2000. Members of the association meld government institutions, non-government organizations, health insurance companies, manufacturing companies, fruit and vegetable production as well as marketing organizations, caterers and retailers. The "5 am Tag (5 a Day) campaign" was launched on May 31, 2000.

Its objectives are to:

- Encourage people to increase their consumption of fruits and vegetables to at least 5 servings (650 g) per day, of which 3 should be vegetables and 2 should be fruits. 5 servings mean 5 handful. So, adults enjoy large servings and children smaller according to their age.
- Provide information on the health-benefits of consuming five or more servings of fruit and vegetables a day.
- Convey that vegetables and fruits are the enjoyable main component of the diet.



TARGET GROUPS

The target groups include the entire population in Germany.

Because eating-habits are formed young, and the eating habits of parents have formative influence upon of their children, the 5 am Tag message is being particularly focused at parents and children as well as children at school and teachers. Especially targeted is an attractive offer of fruits and vegetables in the areas of life, where people spend most of their time during the day, such as workplaces, as well. To reach the target audience, the campaign operates by connecting to their daily touch points like canteens, supermarkets and other shops, nutritional advisory and health care services etc.

CAMPAIGN STRUCTURE / ORGANIZATION

The 5 am Tag Association was formally established in May 2000. In the articles of constitution, the Association's purpose is defined as being to develop and implement a campaign (5 am Tag) to improve the health of the population in Germany through encouraging people to act upon the campaign slogan, and increase their consumption of fruits and vegetables to at least 5 servings or 650 g per day.

The campaign, which was co-financed by the European Union from 2002 to 2017 and currently from 2019 to 2021, aims to everyone. The motto: Eating and drinking with 5 a Day is to be realized effortlessly and delicious. There are no prohibitions. Allowed is what tastes and so everyone easily and effectively can influence his well-being. The recipe: To make fruit and vegetables so temptingly available that having some becomes an increasingly normal habit. Therefore 5 am Tag forms concepts and measures. An attractive offer of fruits and vegetables in the areas of life, where people spend most of their time during the day, such as school and workplace, is especially targeted. To reach them, the campaign operates through connecting to their daily touch points like canteens, supermarkets (3) and other shops, nutritional advisory and health care services etc.

To reach public confidence in the campaign, the German Nutrition Society (DGE) ensures the validity of all nutritional statements made in the name of the 5 am Tag Association, and defines and updates nutritional guidelines for the use of the 5 am Tag logo. On joining the 5 am Tag Association members can use the logo only in according with these guidelines.

The 5 am Tag Association is registered as a mutual-benefit society, because the purpose which it serves is recognised to be of common social benefit, and because it is financed by membership fees and by project related grants from government and EU government bodies.

The Association is obliged by its articles of constitution to ensure that revenues from members' annual subscriptions, project-sponsors, and/or grants from regional, national or EU government organisations are wholly used to realise the campaign objectives and spent on administration-costs for the Association and development/ execution costs for the campaign-projects.

The membership is open to all who relate to the aims and the articles of association.

The 5 am Tag Association has these membership-categories:

- Membership of Category A is open to institutions from the health sector and individuals.
- Membership of Category B is open to business enterprises.
- Membership as sustaining member is open to business enterprises and individuals.

Members can resign from the Association on giving 3 months' notice to the end of the calendar year. Non-members can also terminate their contract with the Association by giving the same period of notice.

The height of the annual subscriptions is stated in a fees schedule. For commercial enterprises, the subscription rate is determined according to a sliding scale based on the financial revenues for the previous year.

Membership of the Association is open to all who undertake to observe the articles of constitution whose main stipulations are essentially as follows:

- The Association's purpose is to implement a campaign to increase consumption of fruits and vegetables to 5 or more servings a day to benefit the health of the population.
- The governing body of the Association is the Annual General Meeting (AGM) of Members. The duties of the AGM comprise the approval of the Association's budget each year; the election of the Board every 2 years; and approval of alterations to the articles of constitution, subscription-rates etc. as required.

- The AGM shall elect an Executive Board to serve for a period of 2 years and shall be comprised of 8 representatives of Association members. Four members are to be drawn from the health sector, and 4 from the business sector. The Board is to elect a speaker from the ranks of its health sector members. Board decisions must be approved by 75 % or more of the board members. Membership of the Board is voluntary for all members, and is not remunerated.
- The Board may establish sub-committees for assignments such as to stipulate the scientific guidelines governing use of the campaign logo.
- The Federal government is entitled to send representatives of the Ministries of Health and Nutrition and Agriculture to participate (without voting) at board meetings.

The Association's members comprise government institutions, non-government organisations, health insurance companies, consumer cooperatives, manufacturing companies, fruit and vegetable production and marketing organisations, caterers, wholesalers and retailers.

The Association is funded by annual member contributions, augmented by project related grants from government and EU government bodies.

The administrative office of the 5 am Tag Association is the Servicebüro 5 am Tag in Mannheim.

The Minister of Health and the Minister of Nutrition and Agriculture are the national patrons of the 5 am Tag health campaign.

5 AM TAG: NUTRITIONAL RECOMMENDATIONS

The message "5 am Tag" refers to fruit and vegetables both fresh and processed. The 5 am Tag message is part of the official nutrition recommendations in Germany, published by the German Nutrition Society (4).

In practice processed products are included if they comply with the requirements of the German Nutrition Society, meaning that they are only minimally sugared or salted and have a low fat content. Furthermore, juices (100 % fruit) and nuts (unsalted, unroasted) are also included.

To ensure public confidence in the campaign's nutritional recommendations, the German Society for Nutrition ensures the validity of all nutritional statements made in the name of the 5 am Tag Association, defines and updates the nutritional guidelines governing the use of the 5 am Tag logo.

Products can be labelled with the 5 am Tag logo if they meet the following labelling criteria:

- All varieties of fresh fruits and vegetables – including avocados, olives and nuts (unsalted, unroasted). Potatoes are not included.
- All juice products which are 100 % juice or juice concentrate without added fat or sugar.
- All varieties of fruits and vegetables which have been frozen, tinned, tried or otherwise processed and which after being prepared for consumption conform to the 5 am Tag labelling criteria.

These labelling criteria (5) specify inter alia:

- Maximum 3 g fat /100 g product.
- No more than 30 % of the original product's calorie-component can be added as extra sugar in whatever form.
- Ready-to eat meals should contribute at least one serving of fruits and/or vegetables per serving of the recipe.

The Association's aim is to achieve widespread and effective communication of the 5 am Tag logo and slogan:

- Wherever fruits and vegetables are purchased and/or consumed.
- In conjunction with media which will promote increased consumption of fruits and vegetables.

Members and contract-partners of the Association are therefore entitled and encouraged to use the logo in their own marketing programmes so long as these are in accordance with the regulations summarised above:

- On joining the 5 am Tag Association members can undertake the use of the logo in according with the regulations drawn up by the Association for this purpose.
- Organizations such as those which are prevented by their own articles of constitution from becoming members of the 5 am Tag Association can also acquire the same rights to use the logo as Associations Members through signing a contract which obliges them to observe the same regulations governing use of the logo, and to pay an equivalent subscription rate as members for this purpose.

5 AM TAG COMMUNICATION STRATEGY

The strategy for the previous years has been characterized by the concentration on:

- A single subject area: snacks.
- Two living environments: school and workplace.
- Proven behaviour-changing arguments and environmental preventive measures and conversational tools of communication.

Popular are initiatives and activities for health promotion at the workplace, such as a project in small and medium-sized companies, which links the aspects of diet, exercise and relaxation. Company fruit subscriptions have proven to be a particularly convenient and sustainable measure. At an online marketplace 5 am Tag brings together all interested companies and suppliers, which is a win-win situation for both employees as well as dealers.

5 am Tag has also become an integral part of school life. The association's longstanding commitment to a school fruit scheme in Germany and a pilot project carried out by the 5 am Tag association in 18 schools with a total of 9,000 students successfully completed in summer 2009 has played an important part in ensuring that today pupils in 12 Federal States are provided with free fruit and vegetables in their school breaks (6).



Furthermore, new projects continuously enrich school life, be it the LIDL fruit school, the REWE school cone campaign or the 5 am Tag initiative “Plant your own sandwich”, where children plant their own 5 am Tag vegetable patch and get a taste for the matter in a particularly playful way.

These and other offers are accompanied by attention-grabbing 5 am Tag information materials, events and promotions, continuous public relations as well as a modern presence on the web and in social media.

Because for the Germans it is important to see information regarding health-promoting properties on products, members and contract-partners of the 5 am Tag association are encouraged to use the logo in their own marketing programmes so long as these are in accordance with the scientific regulations.

The main reasons for the low fruit and vegetable consumption in Germany are:

- Many people are aware that fruits and vegetables are good for their health, but believe they already consume sufficient quantities for this purpose.
- Fruits and vegetables are not heavily advertised and promoted like competitive products, which position themselves as healthy alternatives and are bought for this reason.
- Many people believe that fruit and vegetables are relatively expensive.
- Many people perception that it is too time consuming and difficult to prepare and serve fruits and vegetables.

The 5 am Tag communication strategy considers a limited level of funding, so it is the aim of the 5 am Tag Association to provide an organisational framework which facilitates effective networking between Association members and to implement communication strategies which gain maximum exposure for the 5 am Tag message in the media, production, manufacturing, catering, and health-sectors. This enhances the multiplier-effect of individual Association Members 5 am Tag activities thereby:

- Increasing the overall impact of the consumer communication programme.
- Making best use of scarce resources to maximum effect.
- Encouraging creativity.
- Enhancing working relationships between the public and private sectors at provincial federal/international level.



To reach the audience the 5 am Tag programme operates through the following communication channels:

- Schools.
- Places of work, canteens and restaurants.
- Supermarkets and other shops.
- Fairs and exhibitions.
- Nutritional advisory services, health care services and self-help groups.
- Internet and community channels.
- National and local mass media.

The strategy for the previous years has been characterized by the focus on:

- A single subject area: snacks.
- Two living environments: school and workplace.
- Proven behaviour-changing arguments supporting environmental preventive measures and
- Conversational tools of communication: Popular are initiatives and activities for health promotion at the workplace, such as a project in small and medium-sized companies, which links the aspects of diet, exercise and relaxation. Company fruit subscriptions have proven to be a particularly convenient and sustainable measure. At an online marketplace 5 am Tag brings together all interested companies and suppliers, which is a win-win situation for both employees as well as dealers.

5 am Tag has also become an integral part of school life. The association's longstanding commitment to a school fruit programme in Germany has played an important part in ensuring that today pupils in 12 Federal States are provided with free fruit and vegetables in their school breaks.

THE CURRENT EU-SPONSORED CAMPAIGN "SNACK5"

From 2019-2021, the European Union is funding a two-country campaign carried out by the 5 am Tag association and the Agrarmarkt Austria (AMA).

In year 2019 the communication concept with logo, key messages and the key visuals was set up. The key message is "Snack5 - Europe enjoys fruits & vegetables". After finishing the design of the campaign different work packages with following main activities were implemented:

WEBSITE "SNACK5" (www.snack-5.eu)

A common landing page was set up with newsletter-services, Facebook/Instagram/Pinterest stream, links to social media. In addition, this web portal is the main place for sharing information on the aim of this project like EU quality, safety and traceability and health-related messages aiming at promoting the consumption of snacks within the other actions. Different features of the website, i.e. pin board for snack ideas, increases ideas for European fresh F & V consumption as "the better snacks".

As consumer reviews are becoming increasingly important for consumers, media and key influencers alike, an integrated 5 a Day rating module for parents "Check5" had been integrated on the website. It should create a strong "push and pull" effect on this public sector. The implementation of fruit and vegetables 5 times a day in schools by parents will be evaluated - a simple opportunity to advocate the best possible catering within the framework of balanced nutrition with fruit and vegetables for children. Automatically generated compensation recommendations on the website for the compensation of missing fruit and vegetable portions at school or at home will contribute to a better supply of fruit and vegetables for school children. Furthermore, synergies with the EU's school fruit scheme should be insured and its organisation included in the evaluation. The "Check 5 a Day in schools" is included in a communication mix of relevant channels and activities to achieve maximum communicative impact with the efficient use of available resources, and thus to achieve the defined objectives.

MIT DEINEN FRISCH GEERNTETEN RADIESCHEN KANNST DU DIR LUSTIGE PAUSENBROTTE ZAUBERN.



Zutaten:

- ▶ 1 Vollkorn- oder Mischkornbrotchen
- ▶ Frischkäse mit Käsehaar
- ▶ 3 Radieschen, in Scheiben geschnitten
- ▶ 15 gelbe Paprika, in Streifen geschnitten
- ▶ 1 Salatblatt

Mehr Infos findest du hier: www.5amtag.de

FRISCHER PEPP FÜR SCHARFE SINNE
DAS 5 AM TAG-SCHULBROT





Finanziert mit Fördermitteln der Europäischen Union




Was ist bunt und knackig und gehört zu jedem coolen Pausenbrot? Klar, Obst und Gemüse. Die geben dir Energie, machen dich fit und halten dein Köpfchen frisch und munter.

Weißt du, woher Obst und Gemüse kommen und dass du es auch einfach selbst anbauen kannst?

Frag doch deinen Lehrer, ob ihr gemeinsam ein kleines 5 am Tag-Bett anlegen könnt. Was ihr dafür wissen müsst, erfahrt ihr auf www.5amtag.de

5 am Tag bedeutet, jeden Tag 5 Handvoll Obst und Gemüse zu essen. Am besten 3 Handvoll Gemüse und 2 Handvoll Obst. Mit einer Frucht zum Frühstück und einem frischen Pausenbrot mit leckerem Gemüse ist schon ein guter Anfang gemacht.

Täglich 5 Handvoll Obst und Gemüse essen!



Radieschen
Mit unserer Anleitung kannst du bald selbst winzige Radieschen für dein Pausenbrot züchten.

mach mit!



1. Fülle das Bettchen mit Erde.
2. Lege die 3 kleinen Samen mit 5-10 mm in eine Reihe senkrecht auf die Erde.
3. Decke die Samen mit einer 10 mm ab.
4. Gieße das Bettchen gut ab und gieße Wasser darüber.

Schon nach 4-6 Wochen kannst du die kleinen runden Schätze ernten. Klein und knackig, rot und rund. Schon sind sie im Mund!

SOCIAL MEDIA

It is crucial to further expand digital communication in social media: In addition to Facebook, Snack5 had been present on Instagram and Twitter. With these social media activities, the campaign corresponds to the needs of the so-called “social eaters” or “digital natives”. In this way young target groups as well as multipliers could be reached by optimized digital communication platforms.

EVENTS “ACTIVITIES WITH SCHOOLS” AND “ACTIVITIES IN SCHOOLS”

In addition to the significant fruit and vegetable availability at home, a compassionate, consistent food education improves the child's interest and consumption. The main method used to achieve the direct impact on the decision to consume F&V snacks was to maintain a strong presence at school places by excursions and promotions to establish direct contacts with schools and through hand out information brochures to teachers and parents. These initiatives are designed in the form of an edutainment program, which ensures the experience on site and makes the connection "from the field to the hand" with a special focus on children from urban areas.

The students learn in a playful and illustrative way the value and benefits of European F&V and see first-hand how easily they can integrate fruit and vegetables into their daily diet. This is an effective way of communicating the message: "5 a Day F&V are simply delicious snacks and provide fresh power and fun."

POINT OF SALE (POS) ACTIVITIES “INTERVENTIONS IN WORKING PLACES”

In addition to the significant fruit and vegetable availability at home and in school, a compassionate, consistent F&V availability at the workplace improves employee consumption.

The main method used to achieve the direct impact on the decision to consume F&V snacks was to maintain a strong presence at workplaces by interventions to establish direct contact with companies and through hand out information brochures to employer and employees.

Information on fruit and vegetable snacks were required, which aimed at the business, as well as the resources, possibilities and needs of employees, which are easy and flexible to implement. On the one hand, the proposed measures should generate demand on the part of the company and, on the other hand, motivate employees to snack more fruit and vegetables in between.



ADVERTISING

By advertising on TV channels with the highest ratings for key target groups (LOHAS), we want to reach parents and employees as well as members of the general public with whom we are not in direct contact (Austria only). Editorially designed TV contributions under the title "Infos and Tipps" reached the target groups defined above at prime time on Friday evening (06:50 pm) on ORF (Austrian Broadcasting Corporation), Austria's highest-reach TV medium.

For a more in-depth presentation of individual aspects of European fruit and vegetable snacks for the general public with a strong focus on LOHAS, we prepared an advertorial in the form of promotional articles published in special interest media "Eltern family" (Germany only). In order to achieve wide-reaching coverage of the above target group, online and offline areas that have to do with family life are particularly suited. The publishing house Gruner und Jahr (G+J) provided an ideal environment in which to address parents in the areas of online and print (offline) in its content channels.

TRADE- AND CONSUMER-FAIRS

In order to comprehensively present the programme to the specialized public, and to motivate it to use individual work packages – also for the purpose of networking with other European and international "5 a Day initiatives" – and thus to increase the reach, the campaign had been presented at the largest international trade fair for the fruit industry, the FRUIT LOGISTICA fair in Berlin. Approximately 78,000 trade visitors and media could be reached.

Furthermore 5 a Day had been presented in a series of promotional events on big consumer fairs in Austria and Germany that will last for the duration of the project and will also create the opportunity to raise awareness of the merits of European F&V snacks.

PUBLIC RELATIONS (PR) OFFICE

Media work also motivates and activates. It serves to provide comprehensive and better information, according to situation or topic, the continuous “background noise in the press” and promotes the media reputation and presence of the Snack5 campaign. Here too, it was crucial that the topics that are covered by press releases appear on the website and in social media too, so that the communication is strengthened across the different channels. The importance of meeting the strict safety, health and nutritional standards required by the European Union for food products had been presented by PR work and press events in order to reach the daily and specialized press.

Special media work formats such as a radio media campaign or PR surveys (representative surveys) ensured that the key messages were newly presented again and again to journalists and remained newsworthy.

RESULTS AND PROSPECTS

The German 5 am Tag campaign during the previous 18 years has become one of the best-known nutrition campaigns in Germany and has a prominent level of credibility. More than half of the German population currently knows the 5 am Tag nutritional rule (58 %, representative inquest study 2016 on behalf of 5 am Tag e.V. and actually 63 % in 2019, representative study by CoConcept). Currently, an average approximate 3 servings of fruit and vegetables are consumed a day. According to the survey meanwhile approx. one-third of all professionals gets regular charge-free fruit and vegetable offers at their workplaces.

On a national level, projects such as “Plant your own sandwich” and “Fruit at the workplace” have been distinguished by the Ministry for Nutrition and Agriculture (BMEL) and the Ministry for Health (BMG) as being exemplary for a healthy diet in Germany. These results are confirming the focus on environmental preventive measures and on the target audience of professionals and children at school.

Programs to increase fruit and vegetable consumption are also being carried out in many other countries. The health programs of the 5 a Day organizations and the promotion programs of global business of produce marketing are facilitated by international co-operation and the exchange of information,

experience and know-how. Therefore 5 am Tag is a member of AIAM5, a non-profit collaboration forum which aims to establish a world-wide freely acceded framework of national associations promoting consumption of fruit and vegetables, such as “5 a Day” associations, in their national context and cultural and health situation.

Furthermore, Germany is an important import country for many fruits and vegetables. Any increase in consumption in Germany will lead to higher sales in other European Member States and strengthening the 5 am Tag campaign in Germany means strengthening European producers and retailers in the agricultural and food sector as well.

The strength of the 5 am Tag concept lies in the convergence of public health considerations and commercial interests. Experience has shown that communicating the same short, simple, actionable message at school, at home, and in the workplace, assisted by attractive fruit and vegetables offers in all areas of life is most likely to succeed in changing consumer attitudes and behavior. The network of involved economic and health partners ensures scientific credibility on the one hand, and the sales-focused usage of the implemented communication means on the other.

The current EU-sponsored campaign “Snack5” has a wide reach due to the diverse measures in the field of press work and social media as well as the presence at consumer fairs and congresses and also with the specific measures in the area of school and work.



In a current survey in 2019 on behalf of the EU-funded Snack5 campaign on the vegetable and fruit consumption of schoolchildren in Germany and Austria, 627 parents of school children from Germany (423) and Austria (204) took part on an online access tool. The survey shows that healthy nutrition for their children is important to many parents. With regard to the consumption of vegetables and fruit, however, there are gaps in knowledge about the recommended amounts of consumption. The results of how much vegetables and fruit children actually eat every day at home and at school gives following figures: on average - according to the parents' estimate - school children in both countries consume between 3.6 and 3.7 portions of vegetables and fruit during the day. Further the study shows that fruit is more popular among schoolchildren than vegetables, younger schoolchildren eat more vegetables and fruit than older ones, more vegetables and fruit are consumed at home than in schools and the level of education and gender of the parents influence the knowledge of the meaning of fruits and vegetables in the daily diet (7).

SUMMARY

The Campaign “5 am Tag” is based on a mutual-benefit association which was established in May 2000. Members of the association meld government institutions, non-government organizations, health insurance companies, manufacturing companies, fruit and vegetable production as well as marketing organizations, caterers and retailers. The Association is funded by annual member contributions augmented by project related grants from government and EU government bodies. The campaign “5 am Tag” was started in 2002 and encourages people to increase their consumption of vegetables and fruits to at least 5 servings (650 g) per day, of which 3 should be vegetables and 2 should be fruits. The message “5 am Tag” refers to vegetables and fruit both fresh and processed. An attractive offer of fruits and vegetables in the areas of life, where people spend most of their time during the day, such as day care center, school and workplace, is especially targeted. To reach them, the campaign operates through connecting to their daily touch points like canteens, supermarkets and other shops, nutritional advisory and health care services.

The current EU-sponsored campaign “Snack 5” focusses on a broad communication via the website, social media, press, trade and consumer fairs and has schools, parents and workplaces as main targets.

FOR MORE INFORMATION:

<https://www.5amtag.de/>

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CANADA

HALF YOUR PLATE - A PROGRAM OF THE CANADIAN PRODUCE MARKETING ASSOCIATION

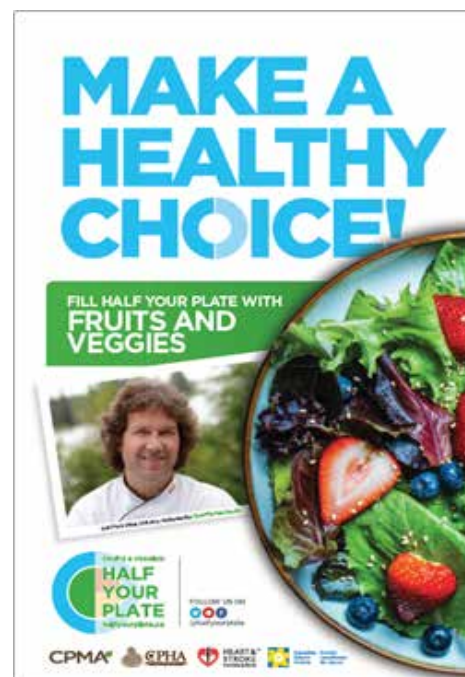
Sue Lewis. Canadian Produce Marketing Association (CPMA)



The Canadian Produce Marketing Association is a not-for-profit organization that represents companies that are active in the marketing of fresh fruits and fresh vegetables in Canada from farm gate to dinner plate. CPMA's vision is to enable and lead the produce industry by enhancing the market and facilitating trade of fresh fruits and vegetables for its members.

Half Your Plate is a marketing campaign designed by CPMA in consultation with the Heart & Stroke Foundation of Canada, Canadian Cancer Society and the Canadian Public Health Association. These organizations, widely respected for their role in health promotion and disease prevention through healthy eating education, proudly support the *Half Your Plate* campaign. The campaign is financed by CPMA member contributions.

The purpose of the campaign is to provide a simple, clear, consistent message to all Canadians to encourage healthy eating behaviours.



Research shows that most Canadians are not eating the recommended daily number of fruits and vegetables as suggested in *Canada's Food Guide*. To add to the confusion there is a lack of understanding on what constitutes a serving.

Studies have shown that while Canada's Food Guide recommends that adult females consume 7-8 servings and adult males 8-10, Canadian females are only eating 4.3 servings and male only 3.5 servings. Additionally, more than ¼ of Canadians don't believe they have enough time to prepare fresh produce to eat, which prevents them from consuming more. This is compounded by the fact that traditional food skills and cooking knowledge are lacking in children and adults alike.

Before crafting the *Half Your Plate* message, CPMA conducted extensive stakeholder research. The most common reasons cited for low fruit and vegetable consumption included:

1. Confusion about what constitutes a "serving".
2. Lack of knowledge of how to cook fresh produce.
3. Unwillingness to track food and count servings.
4. Need for a common message applying to all ages and genders.
5. Some Canadians indicated cost of fresh produce was a factor, but upon further investigation, the core issue appeared to be food waste, as produce was often improperly stored or prepared, thus leading to waste.

CPMA members have embraced the program in the following ways:

1. Including the Half Your Plate logo on produce packaging.
2. Posting recipes on their websites and social media channels.
3. Contributing content to Halfyourplate.ca where consumers can find shopping tips, information on specific fruits and vegetables, money saving tips, recipes and more.

Each year CPMA commissions a study to look at consumption patterns and Half Your Plate program recognition. The high level findings from the 2019 report are included here:

Encourage trial and consumption by promoting affordability

- Average fruit servings have fallen slightly from 2018, while vegetables consumption remains stable. Lower income households more likely to consume lesser servings, so its essential to continue educating consumers about availability of affordable options.

High price, spoilage and routine choices are the biggest deterrent to fruit/vegetable purchase

- High cost and issues with produce spoilage may prevent people from increasing their consumption. Educating Canadians about choosing good-quality produce, storing methods and creating innovative recipes can promote increased consumption.
- Low interest in trying new fruits and vegetables can also be addressed by knowledge-sharing on health benefits and creative meals that can be prepared using them.

Low price is the strongest motivator to increase consumption

- Most people are motivated by price and quality factors. Important to inspire people by promoting quality options at affordable price points.
- People will also be encouraged to purchase more if they learn ways to better *store their produce and learn new recipes*.

Campaign awareness has improved since 2018 but servings and trials of new produce have not increased

- While most Canadian HHLDs still reluctant to try new produce, there have been net increases in trials for some fruits such as Dragon fruit and vegetables such as Kale. Making produce shopping a fun experience for consumers can be instilled via creative recipe ideas and an option to share them with others.
- Net awareness of 'Half Your Plate' campaign has gone up and has potential to reach an even larger audience by leveraging online channels such as Facebook and Instagram.
- Exposure of the campaign via website has increased since 2018, essential to leverage this interactive medium further by talking about produce facts that are critical for consumers.

CPMA has actively engaged with Registered Dietitians to provide support for Canadians by educating them not only on the importance of including produce as a regular part of a healthy diet, but also on how to shop, store and prepare the produce. As more and more retail stores across Canada include a dietitian as part of their in-store team, this growing network is a valuable source of trusted information.

In January 2019 the Government of Canada unveiled the long awaited update to it's Food Guide for Canadians. CPMA is excited to see that the new guide suggests that half the plate should be fruits and vegetables as Canada's Food Guide is seen by a huge majority to be the trusted source of nutrition information in Canada. With support from government, CPMA hopes the *Half Your Plate* message will be amplified and adopted by many Canadians.

Findings Report "PRODUCE CONSUMPTION TRENDS & CAMPAIGN AWARENESS" of Canadian Produce Marketing Association (CPMA) The Nielsen Company (US),

PROJECT BACKGROUND

CPMA would like to complete a 2019 wave of research to build on learnings from previous waves conducted from 2014-2018.

Countertop

Ripen at room temperature, before placing in the fridge:

AVOCADOS BANANAS KIWIS MANGOES MELONS
ORANGES PEARS PEACHES TOMATOES

This maximizes their flavour and sweetness. Just keep a watchful eye on them so they don't over-ripen!

TIP: To speed up the ripening process, place the fruit in a paper bag with a ripe banana. Check on the fruit every day to ensure the best possible ripeness.

Fridge

Store fruits and veggies separately in a fridge, as some fruits release ethylene gas that can spoil vegetables.

A crisper drawer will keep the right moisture to maintain freshness for longer.

Store the following fruits and veggies in the fridge, as soon as you bring them home:

APPLES BERRIES (in a container with dry herbs) CHERRIES (in a container with dry herbs) GRAPES (in a container with dry herbs) LEMONS / LIMES
ASPARAGUS (in a glass of cold water, stalks upright) BEANS BEETS BROCCOLI BRUSSELS SPROUTS

CABBAGE, CARROTS, CAULIFLOWER, CELERY, CORN (shred stalks first), CUCUMBERS, EGGPLANT, DELICATE HERBS (CILANTRO, PARSLEY, MINT) in a glass of water, covered loosely with a plastic bag, HARDIER HERBS (OREGANO, ROSEMARY, THYME) rolled in a damp paper towel, LEAFY GREENS (in a dish towel in a sealed container in crisper), MUSHROOMS in a paper bag, PEAS, PEPPERS, ZUCCHINIS.

Pantry

Store the following in a cool, dry, and dark place:

GARLIC ONIONS (in a mesh bag) POTATOES (in a paper bag) SWEET POTATOES WINTER SQUASH

TIP: Keep onions away from other vegetables, as onions release a gas which could spoil other produce.

Freezer

Freezing fruits & vegetables at home is a fast and convenient way to preserve them for future use.

FROZEN PIECES OF MANGO FROZEN GRAPES FROZEN BROCCOLI (not and placed into a bag) FROZEN CARROT, ONION, CELERY SCRAPS (in a bag) MAKE YOUR OWN VEGGIE BROTH (by using frozen veggie scraps)

Half Your Plate logo: HALF YOUR PLATE eatmovegrow.ca

For more produce tips, visit HalfYourPlate.ca or follow us on:

@halfyourplate @halfyourplatecanada



OBJECTIVES

To understand consumption frequency of fresh produce, trended over time.

To investigate barriers to purchasing fresh produce.

To understand the motivations behind purchasing more fruits and vegetables.

To explore awareness of the Half Your Plate campaign.

RESEARCH QUESTIONS

How many servings of fruits / vegetables do Canadians think they are consuming daily?

What are the barriers to purchasing fruits and vegetables?

What are the motivations behind purchasing more fresh fruits and/or vegetables?

Are Canadians aware of the 'Half Your Plate' campaign?

Do they understand the message being conveyed?

What information sources drive awareness?

RESEARCH DESIGN

Methodology: Online Quantitative Survey

Sample Criteria: Primary shoppers (ages 18+)

Region: Canada-wide

Completes N=5851

Fieldwork: September 7, 2019 – October 25, 2019

Waves: Wave 7 (2019), Wave 6 (2018) and Wave 5 (2017) are addressed in this report.

In some instances, they are abbreviated to W7, W6, W5.

The Nielsen Homescan panel has about 10,000 survey-enabled households. Generally, the survey response rate is ~50%

NOTE ON COMPARING RESULTS

New in september/october 2019 wave:

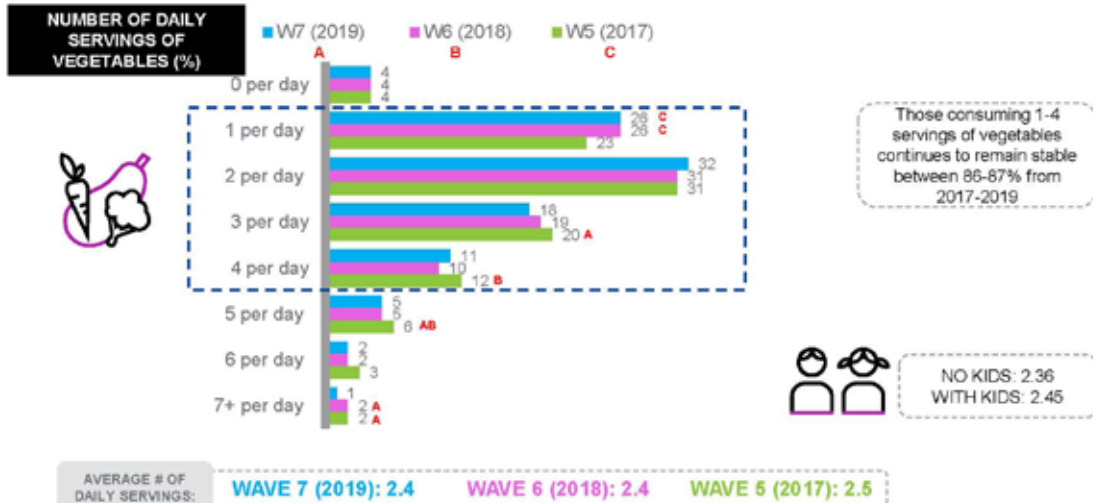
Questions added regarding “how often do you fill half your plate with fruits and vegetables?” and “what would motivate you to buy more fresh fruits and/or vegetables?”

“Radio” removed and “Instagram” added to sources of campaign awareness.

Prepared for: Canadian Produce Marketing Association

Source: PanelViews September/October 2017

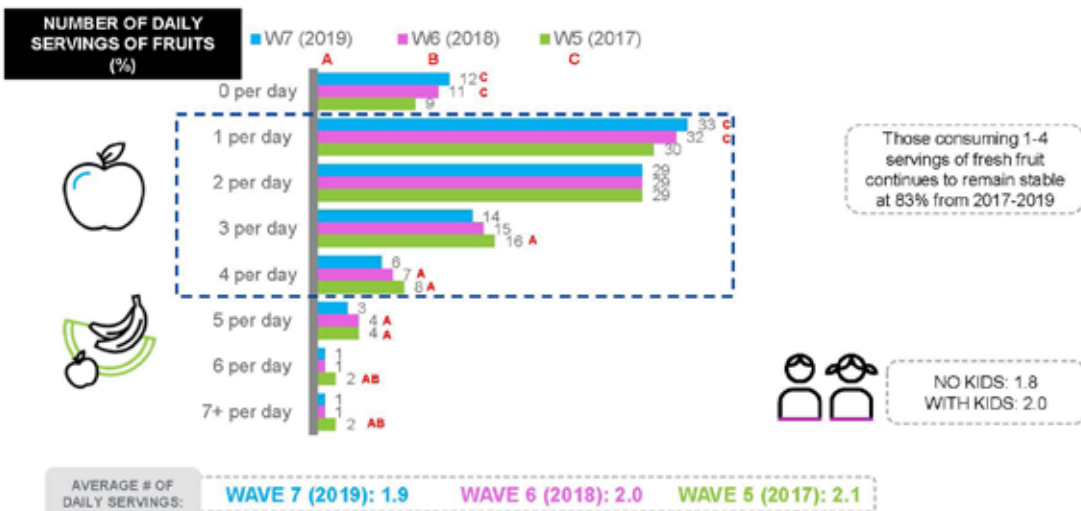
AVERAGE VEGETABLE INTAKE IS HIGHER THAN FRUITS, REMAINS STABLE AS COMPARED TO 2018



Q3. On average, how many servings of vegetables do you eat daily? Base: W7:5851, W6:5415, W5:5396
Kids: 1314 Without Kids: 4537

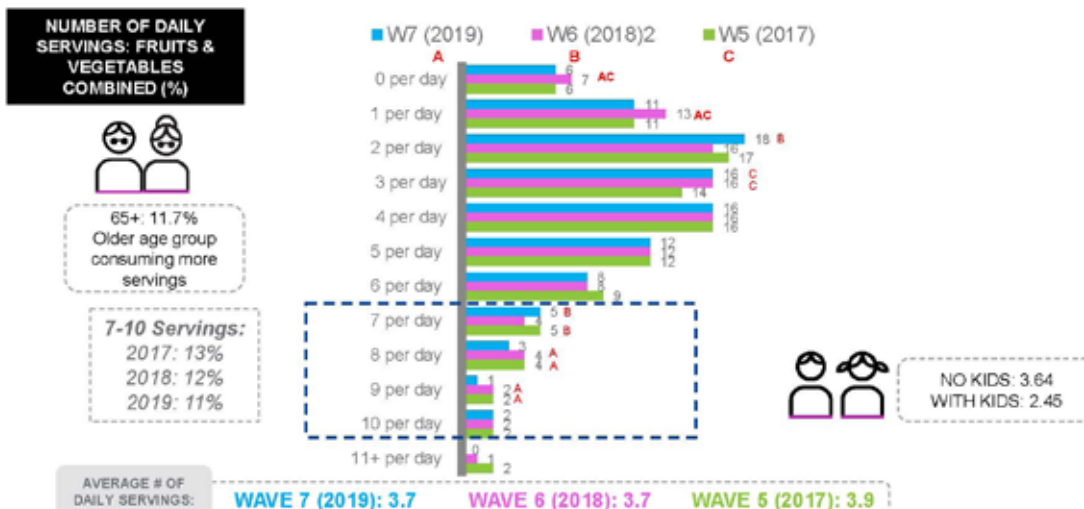
SLIGHT DECLINE IN AVERAGE DAILY FRUIT INTAKE

Those consuming 1-4 servings is stable



Q3. On average, how many servings of fresh fruit do you eat daily? Base: W7:5851, W6:5415, W5:5396

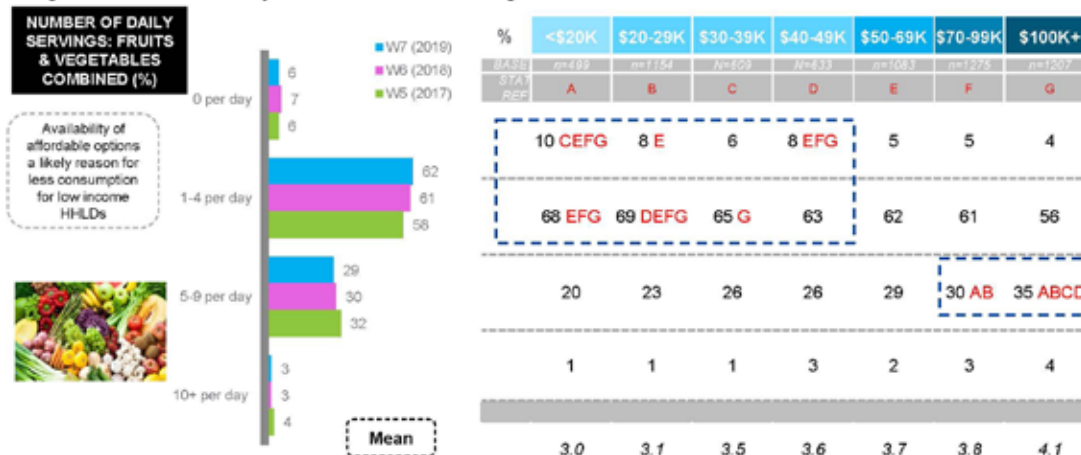
MORE THAN 7 SERVINGS OF PRODUCE CONTINUES TO BE LOW, AVERAGE REMAINS STABLE



Q5. On average, how many servings of fresh fruit and vegetables combined do you eat daily? Base: W7:5851, W6:5415, W5:5386
Kids: 1314 Without Kids: 4537

PRODUCE CONSUMPTION STRONGLY RELATED TO HOUSEHOLD INCOME

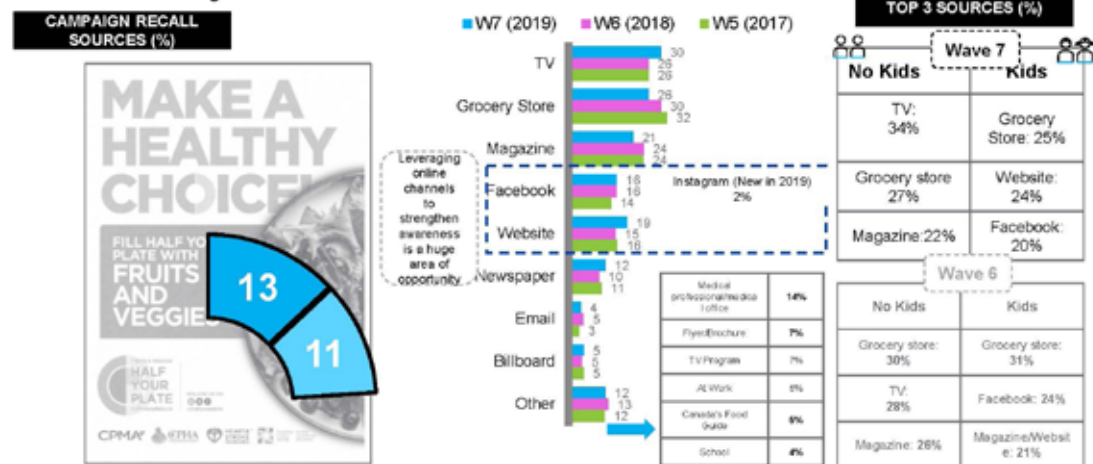
High income HHLDs likely to consume more servings



Q5. On average, how many servings of fresh fruit and vegetables combined do you eat daily? Base: N=W7:5851, W6:5415, W5:5386

ALMOST 1/3 RECALL THE CAMPAIGN VIA TV, AN IMPROVEMENT OVER LAST WAVE

Reach of the campaign through the website has improved, but has reduced for grocery stores. Social media can be leveraged further



FOR MORE INFORMATION:

<https://www.halfyourplate.ca/>

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COLOMBIA

5 A DAY COLOMBIA, 5 FRUITS AND VEGETABLES TO BE BETTER

Adriana Senior. Colombia International Corporation CCI, Bogota Colombia.



BACKGROUND

The Colombia International Corporation (CCI) (1), has been the representative of the Campaign “5 a Day” in Colombia since 2007, whose focus is to encourage the consumption of fruits and vegetables through a healthy lifestyle. Hence physical activity, hydration and the consumption of at least 5 servings of fruits and vegetables a day take part on a healthy lifestyle, with emphasis on children from 0 to 13 years old, pregnant women and the commitment of families so that a healthy eating culture starts at home.

Given that the CCI is a non-profit organization dedicated to promoting farming production in Colombia and that the fastest growing market in the world is the sector of fruits and vegetables, we have sought to help increase fruit and vegetable farming entrepreneurship through the 5 a Day Colombia campaign, achieving greater demand from the local and world market, thus improving their income and well-being. Likewise, we seek that the producers themselves learn to eat better, since their diet is high in carbohydrates and low in fruits and vegetables.

The slogan of the campaign in Colombia is “*5 Fruits and vegetables to be better*” promoting at least five servings of fruits and vegetables to prevent non-communicable diseases, accompanied by images that show their nutritional value and diversity of colors. We highlight the attributes of each fruit and



vegetable, such as how they help strengthen the immune system, organs and bone structure, as well as the benefits of their natural properties thanks to their vitamins, mineral, fiber and carbohydrates.

In the national context, several elements to make it necessary and appropriate to promote the consumption of fruit and vegetable products are combined. On the one hand, the rates of food insecurity and malnutrition suffered by a large part of the national population; approximately 28% of Colombians do not consume vegetables and 35% do not consume fruits on a daily basis. In the same sense, vitamin deficiency is alarming (32% of the population is deficient in vitamin A and 23% in vitamin C, among others). On the other hand, the eating habits of the population who has access to food do not include fruits or vegetables, and finally, diseases such as obesity have increased among the young urban population.

Every five years, the Colombian Institute of Family Welfare (ICBF) conducts the National Nutrition Survey (ENSIN) the last one was carried out in 2015 (2). The ENSIN is part of the National System of Population Studies and Surveys for Health (SNEE) established in 2013 by the Ministry of Health and Social Protection which aims to manage all studies of interest regarding the country's health.

The 2015 survey included the participation of the Ministry of Health and Social Protection, the National Institute of Health (INS), Social Prosperity, the Colombian Institute of Family Welfare (ICBF) and the National University of Colombia. It also



had the support of entities such as the National Administrative Department of Statistics (DANE), the Pan American Health Organization (PAHO /WHO) and the Colombian Association for the Advancement of Science (ACAC).

During the fieldwork carried out between November 2015 and December 2016, 151.343 people from 44.202 households in 295 municipalities of the country were interviewed.

The most relevant results are presented according to some of the socioeconomic status of the households and different stages of life.

In 2010, the reported fruits and vegetables consumption was 110 grams per day whereas in 2015 was 100 grams.

The obesity prevalence in school-age children increased from 18.8% in 2010 to 24.4% in 2015. The excess of time spent in sedentary activities such as watching TV, screens or playing video games, affects to seven out of ten children in urban areas, compared to five out of ten in rural areas. The problem is even bigger among the population with higher incomes, affecting eight out of ten children.



INTERVENTION STRATEGIES AND RESULTS

The improvement in the population's intake of fruits and vegetables to strengthen the health of Colombians, although is a task that must be led by the National Government, CCI has led with much effort, successful interventions, in fact the image of 5 a Day is already present in different settings seeking to become an initiative that has the commitment of all Colombians.

Some of the most relevant strategies implemented by 5 a Day Colombia are as follow:

- **Colombia as AIAM5 technical vice-secretary:** At the 2013 general assembly of the Global Alliance for the Promotion of the Consumption of Fruit and Vegetables “5 a day” - AIAM5-, held in Budapest, Colombia assumed the technical vice-secretary of the Alliance and became a member of the Executive Committee made up of the presidency, secretariat, vice secretary and coordinator, currently held by Spain, Mexico and Colombia. A total commitment to strengthen the Alliance and be able to support the initiatives of its coordinator, Manuel Moñino, was taken.
- **Alliance with Colombia’s largest supermarket:** CCI managed to launch a campaign with Grupo Éxito, the supermarket with the most stores in Colombia, by activating 5 a Day fruit and vegetable stalls, with packed healthy lunch boxes ads, which allowed to increase retail sales by promoting the different seasonal crops at promotional prices and detailing the benefits of each one.



- **5-a-Day World Congress Colombia:** In 2012 we held the 5 a Day World Congress in Cali, Colombia in association with FAO and the Ministry of Health, gathering 1,500 participants, where representatives from more than 25 countries were received. Scientific, academic, commercial and production conferences took place with the presence of institutions and a visit to local fruit supply companies, as well as to places of interest in the city. The success in encouraging the consumption of the region's fruits and vegetables, the biggest producers of Colombia, was resounding.

- **Guinness World Record 2014:** Let's move with 5 a day entered the Guinness World Records book with an implementation led by the Colombia International Corporation - CCI, which was joined by large companies in the sector, marketers and national fruit producers, with the objective of drawing attention to healthy lifestyle habits and encouraging the consumption of fruits and vegetables among the population. The initiative received the name of "Let's move with 5 a day", in which the largest free handout of fruits and vegetables in different regions of the country was carried out simultaneously during 4 hours, achieving a new Guinness World Record.

The challenge involved giving away more than 150 thousand units of fruits, which were donated by allies, and simultaneously delivering 5 servings to Colombians in four of the country's main cities through delivery trucks, music and promoters disguised as fruits and vegetables, with the support of the Ministry of Agriculture. To achieve this world record as part of the campaign, its positioning in the promotion of healthy habits and lifestyles was favored.

- Health and sports activities:** In Colombia, the program has been linked to important sports activities to encourage the consumption of fruits and vegetables among Colombians, as well as embracing healthy habits and lifestyles. For this reason, since 2013, the CCI, as the representative of “5 a Day” in Colombia, has participated in several athletic races, among which the Bogota half marathon, Avianca Run Tour, Woman’s Run, Kids My Challenge, Nat Geo Run (Route for Life) outstand out; a portion of fruit was delivered to each athlete at the end of the competitions to encourage its consumption. Thanks to these kinds of actions, the scope of impact reached athletes and sportsmen and sportswomen, alliances were achieved with farmers’ market vendors and brands that promote fruits consumption in different settings.



- Scientific and academic activities:** The program in Colombia has also been part of specialized congresses with entities such as the Colombian Association of Dietitians and Nutritionists (ACODIN) and the Endocrine Association addressing issues such as obesity in Colombia; the Responsible Hearts Foundation and other organizations establishing agreements with international entities and organizations dedicated to global research on food quality, disease prevention and strengthening nutrition. All with the aim that the information related to fruits and vegetables consumption issued to be address to the population, is evidence-based and disseminated responsibly.
- Bogota Fruits and Vegetables World Congress:** In 2016 another edition of the World Congress was held in the city of Bogota. Workshops on scientific issues and internal processes were carried out at the CCI facilities and an event for 600 people took place where different international conferences were held and which gathered representatives from 30 countries as well as Colombian institutions.
- Cancer prevention alliances:** The celebration of the World Fruits and Vegetables Day also allowed the program, in the collaboration with the League Against Cancer, to move forward the Ruta por la Vida (Route for Life), a 4 kilometer walk cycle in which breast cancer survivors, their families and different national personalities participated, with more than 1,500 people receiving fruits for free. This kind of event has allowed the development of others activities aimed at raising awareness among people on the importance of consuming daily at least 5 servings of fruits and vegetables, as well as adopting healthy habits and lifestyles.
- Rural and farming population:** The program also seeks to support Colombian farmers who produce fruits and vegetables. In particular, that rural women find a balance between what they consume and their daily activities, which requires them to adopt different roles, from mothers and wives, to employees, chiefs and leaders. The Colombian small and medium producers supply high quality fruits and vegetables, however, encouraging its consumption in large cities is only one step in achieving better income and living conditions for rural families. Promoting family healthy habits and lifestyles helps to build conditions for better health and well-being, thus guaranteeing better productions and ensuring they are sustainable over time.



- **Child population strategy:** The Corporation has also participated in various sporting events focused on the child population and their families; several 5 a Day activities have been held at schools, training children, teachers and parents on how to prepare a healthy lunch box and on the benefits of fruits and vegetables for growth, as well as involving them in the preparation of healthy dishes.

Within the framework of this strategy and due to the Covid-19 pandemic, 5 a Day Colombia developed the contest “Taking Care of your Family” where, through social media, citizens were invited to share home videos of their ways in taking care of their family through healthy recipes or physical activities. A strategic alliance was also developed with various schools in the city of Bogota to carry out a virtual training class called “The taste of colors” addressed to children between 5 and 7 years old. Children learned how to recognize fruits, their origin, their health benefits and how to consume them, leading to an online family challenge of preparing a recipe in live, achieving satisfactory results not only for the program but for parents. An example of the comments received: *“thanks to today’s class, my daughter tried a beet pie She had never done that before ... I’m very happy ... thank you once again. My daughter was very impressed by the information she received”*.

CONCLUSIONS OR FUTURE CHALLENGES

The challenge for Colombia and the world today is sustainability and food and nutrition security, which promotes local supply of healthy and quality products, where the value of farmers is recognized and guarantees are provided to allow them a sustainable production. The pandemic has taught us that their work is essential, and that everyone needs fresh and nutritious food.

The 5 a Day Colombia seeks to position itself as a national need so that it reaches schools, companies and supermarkets and is linked to Colombian farmers through the production of fruits and vegetables.

We are convinced that this campaign must be part of the National Government’s healthy habits and lifestyle programs.

Colombia continues with a low intake of fruits and vegetables, which also leads to an increase of extreme poverty, malnutrition, obesity and cardiovascular mortality rates. Hence, it is essential to position the campaign to improve these indicators.

SUMMARY

The Colombia International Corporation - CCI started the campaign for the consumption of fruits and vegetables in 2007 registering the brand 5 a Day Colombia, and has the slogan “5 a Day, to be better”. Among the main successful activities carried out stands out the first Guinness Record for the largest amount of fruits and vegetables donation, and it has always been completely committed in promoting physical activity along with healthy fruit and vegetable consumption.

Our actions with children and pregnant women have been fundamental and the work performed at schools, institutional food services, the promotion of healthy snacks at supermarkets, the development of projects to increase the supply of fruits and vegetables with a social approach, our work with institutions in the fight against cancer, the prevention of obesity and cardiovascular diseases with healthy diet among many other activities are our main commitments.

As part of the Global Alliance for the Promotion of Fruit and Vegetables Consumption “5 a day” - AIAM5, we have contributed to two world congresses, we are actively involved in its boards of director through its technical vice-secretariat taking responsibility for contributing to the campaign of the daily consumption of 5 servings of fruits and vegetables to be better.

FOR MORE INFORMATION:

<http://www.cci.org.co/inicio/>

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COSTA RICA

5 A DAY STRATEGY COSTA RICA

Cecilia Gamboa Cerda. Ministry of Health, San José, Costa Rica



BACKGROUND

In Costa Rica, like most of the countries of the Americas, non-communicable diseases (NCDs) have been the leading causes of death and diseases for several decades. The most prevalent NCDs are diseases of the circulatory system, diabetes, cancer, obesity, hypertension, among others. One of the protective factors identified in the National Strategy for the Comprehensive Approach to Non-communicable Diseases and Obesity 2013-2021 (1), were the initiatives that increase the consumption of fruits and vegetables at schools, homes, workplaces, trading companies and recreation as well as incentives that benefit the national and regional production and commercialization of fruits and vegetables.

According to data from the last National Nutrition Survey taken in 2008 (2), the consumption per person of fruits and vegetables was 196.6 grams, well below the 400 grams recommended by the World Health Organization (WHO) to meet nutritional needs and prevent NCDs.

The “Global Strategy on Diet, Physical Activity and Health” was an initiative approved in 2004 by the World Health Assembly that recommends that member countries should increase the consumption of fruits and vegetables to prevent NCDs and improve the health and nutrition of the population.

In April of 2006, Costa Rica acquired the international commitment within the Global Strategy on Diet, Physical Activity and Health, to increase the consumption of fruits and vegetables as a strategy for the prevention of NCDs to improve health and nutrition in the country. Therefore, the Intersectoral Commission on Dietary Guidelines, coordinated by the Ministry of Health, raised the possibility of implementing the 5 a Day Strategy in the country to achieve the objective of including in the public institutions the increase of consumption of fruits and vegetables.

That same year, the III International Agribusiness Fruit and Vegetable Symposium was held, and within that framework, an inter-institutional and inter-sector team was formed to promote and consolidate the 5 a Day Strategy.

Authorities and representatives of the institutions that were in charge of the sponsorship and coordination of this Symposium, agreed to deal specifically with the issue of fruits and vegetables. For this purpose, the **“Workshop for the promotion of the consumption of fruits and vegetables in Costa Rica”** was organized with the participation of representatives of the Inter-American Institute for Cooperation on Agriculture (IICA), the Pan American Health Organization (PAHO) and the Food and Agriculture Organization of the United Nations (FAO) among other organizations; officials from the Ministries of Agriculture, Health, and Education of Costa Rica, the Comprehensive Agricultural Marketing Program (PIMA-CENADA), the National Production Council (CNP), universities, producers, and fruit and vegetable trading companies (supermarket chains) of Costa Rica, El Salvador and Nicaragua.

At the workshop, an agreement was reached to set up a “work team” made up of representatives of public and private entities, placing them in charge of the management, promotion, formulation, organization and development of the 5 a Day Strategy. Their ideas and considerations were reflected in a document that served as the basis for the draft of a Decree.

On July 16, 2007 Executive Decree N. 34030 S-MAG-MEIC-MEP was signed by the President of the Republic, Minister of Health, Minister of Agriculture and Livestock and Minister of Education. In this decree the National Network 5 a Day Costa Rica is created as a national participatory organization, as well as an inter-institutional and intersectoral coordination mechanism, whose purpose is to promote the increase in consumption of fruits and vegetables to contribute in the achievement of comprehensive health for the population and the socioeconomic development of small and medium-size entrepreneurs who produce them for the local market and their export (4).



The National Network 5 a Day Strategy Costa Rica has been led by an Intersectoral Committee made up of representatives of the public sector, which is coordinated by the Ministry of Health.

The overall and the specific objectives of the Strategy are indicated below, as established in the decree.



OVERALL OBJECTIVE

Promote the consumption of fruits and vegetables in Costa Rica to contribute to the improvement of the quality of life of our population and the development of the country.

SPECIFIC OBJECTIVES

- I Prepare, develop, monitor and evaluate a work program and its respective strategic plan.
- I Coordinate and articulate actions to be performed by the sectors and institutions that make up the Network.
- I Promote increased production, availability, access and consumption of fruits and vegetables to contribute to improving the quality of life and food and nutritional security for the population.
- I Strengthen educational processes that promote healthy eating habits among the population.
- I Stimulate the management capacity of community organizations to contribute to the achievement of the objectives of the Network.
- I Facilitate the organization and execution of national intervention programs, including the mobilization of resources.

In 2007, the 5 a Day logo was designed by an advertising agency, which was approved and made official for the 5 a Day Strategy.

In 2008, a 5 a Day multimedia campaign was developed with the technical and financial support of the Pan American Health Organization and with the work carried out by the School of Advertising of the Inter-Americana University, which was in charge of the design and production of the Multimedia Advertising Campaign (3).

On February 20, 2009, “The Launch of the National 5 a Day Strategy and Multimedia Campaign Costa Rica” was held, whose objectives were:

1. Make the National 5 a Day Strategy Costa Rica official with the authorities of the institutions that make up the Executive Committee of the National Network for the development of this strategy.

2. Publicize the National 5 a Day Strategy Costa Rica Multimedia Campaign to the different entities of the governmental, non-governmental and private sectors.

Close to 200 people from different institutions and sectors participated: Ministry of Health, Costa Rican Social Security Fund (CCSS); Ministry of Public Education (MEP); universities and academic institutions of formal education, Ministry of Agriculture and Livestock (MAG), National Production Council (CNP), Comprehensive Agricultural Marketing Program (PIMA) and production companies; International organizations; companies and national press, among others.

The event was attended by the Minister of Health, Academic Vice Minister of the Ministry of Public Education, the Vice Minister of Agriculture, the Representative of the Costa Rica Office of the Inter-American Institute for Cooperation on Agriculture (IICA) and the Representative of the Pan American Organization Health (PAHO).

Various mass media materials were produced for the multimedia campaign such as television, radio, flyers, posters, scrolling advertising boards, danglers, cookbooks, brochures and promotional videos, among others. Some of these are shown below.





In 2012, Costa Rica joined the Global Alliance for the Promotion of the Consumption of Fruit and Vegetables “5 a day” - AIAM5, a great achievement to strengthen the strategy and exchange experiences with other countries that lead in the consumption of fruits and vegetables. That same year Costa Rica participated in the VIII World Congress for the Promotion of the Consumption of Fruits and Vegetables in Cali, Colombia and signed its adhesion to the AIAM5 Alliance.

At one of the AIAM5 meeting minutes, the celebration of the World Fruits and Vegetables Day within the framework of World Food Day was agreed upon. For this reason, the Ministry of Health worked on a proposed decree for the celebration of the Costa Rican National Day of Fruits and Vegetables in coordination with the Ministry of Agriculture and Livestock and the Ministry of Education.

On January 15, 2014, Decree N. 38217-S-MAG-MEP was signed by the Minister of Health, Minister of Agriculture and Livestock, the Minister of Education and the President of the Republic (5).

INTERVENTION STRATEGIES AND RESULTS

From 2008 to 2012, the FAO developed a cluster on “Farmers Markets in Costa Rica”, where an interdisciplinary team participated. The main objective of the process was to strengthen the farmers markets in Costa Rica, considering their interculturality and covering various aspects among them promoting food and nutrition security. Various training courses were held for farmers who sold their products at farmers markets in Zapote, Curridabat, Desamparados, Tres Ríos, Buenos Aires and Ciudad Neilly. As an elementary part of the training courses, and specifically the one related to food and nutrition, the 5 a Day material prepared by various public institutions in Costa Rica was used.

The 5 a Day campaign was an essential tool to get the message across to farmers in relation to their role as promoters of food and nutritional security with their stands at markets and also to promote the contribution of knowledge so that, as consumers, they also make good choices in their food selection and take advantage of the exchange that takes place as part of the market atmosphere that is experienced every weekend at these venues.

During the years 2011 to 2015, the following research and social action projects were registered at the School of Nutrition of the University of Costa Rica:

- **Research project:** “Promotion of Food and Nutritional Security: an opportunity for local markets” 2012-2015. Investigation project. School of Nutrition- UCR
- **Social action project:** “Strengthening the Food and Nutritional Security capacities of producers and strategic actors at the Farmers Markets of Tres Ríos and the Villa Olímpica of Desamparados based on training, organization and promotion strategies, Costa Rica, 2013” ED 2985. School of Nutrition-UCR.

Through these projects, training processes were carried out for farming families and consumers who attend farmers markets in the country. In this case, the 5 a Day material was used as a tool for the empowerment of a group of farmers from the Food Security and Nutrition Promoters Network at farmer’s markets. Through the workshops and trainings carried out, the network’s farmers established at the Tres Ríos market and the Desamparados market, used the 5 a Day messages to promote their products through posters and materials that they created.

These projects had an important teaching component that allowed the participation of university students with community work, student hours and final degree projects, who carried out various activities to promote the consumption of fruits and vegetables at markets, using as a basis the 5 a day messages.

Another intervention strategy was the “Move and Enjoy Life” plan carried out during 2012-2014. This plan was implemented because the 2009 “Global School Health Survey” of teenage students between the ages of 13 and 15 revealed a prevalence of being overweight of 28.3% in women and 27.6% in men and a prevalence of obesity of 7.9% in women and 9.7% in men. Furthermore, the survey revealed that only 31.7% of the students consumed the WHO recommended proportions of fruits and even a smaller proportion, 18.7%, consumed the recommended portions of vegetables.

Given the above, the Ministry of Health, in compliance with its guiding role of positioning health as a social value among the population and in coordination with the Ministry of Public Education, implemented during 2012-2014, the “Move and Enjoy Life”, with the aim of positioning healthy eating and physical activity among the teenage population.

This initiative reached about 106,000 students and showed progress in eating behaviors and physical activity among teenagers. According to information provided by the Health Promotion Governing of the Ministry of Health at the close of the plan in November 2014, in a sample of seventh, eighth and ninth grade students of the 92 schools that participated in the plan, 34.9% of the students consumed 2 or more fruits daily, 38% consumed 2 or more vegetables daily and 64% carried out physical activity at least 3 times a week.



Another intervention strategy was the “Move and Enjoy Life” program. This program was implemented during 2015-2018. Due to the above information and in compliance with one of the objectives of the 2015 – 2018 National Development Plan: to encourage the development of healthy lifestyles among the population through the practice of physical activity and the increase in the consumption of fruits and vegetables, whose indicator was the “percentage of school students with healthy lifestyles”, the Ministry of Health in alliance with the Ministry of Public Education, the Costa Rican Social Security Fund, the Costa Rican Institute of Sports and Recreation, the Council of Young People and the National Union of Local Governments and with the strong support from important national companies (Dos Pinos, Sigma Alimentos, Demasa, Pastas Roma, SCA, Claro and Alimentos Prosalud), implemented the program (6).

The general objective of this program was “to encourage the development of healthy lifestyles among the teen school population aged 13 to 17, through the practice of physical activity and an increase the consumption of fruits and vegetables.”

The target population of the program were the students of 92 public schools in the national territory. The schools were distributed in urban and semi-urban areas of the country. The total student population was 104,705 students distributed in the seventh, eighth, ninth, tenth and eleventh grades.

For the “Move and Enjoy Life” program, modern communication tactics known as Integrated Marketing Communications were used: fairs, festivals, dynamic workshops, rallies, contests, races, among others. In addition, a mass media advertising campaign with the same name was relaunched, which includes a Facebook page where teen school students received simple advice and in appropriate language for their age, as well as facilitating a communications and exchange space for them.

The program established measurable objectives and goals that allowed the evaluation of its success based on a baseline measurement. The goals were focused on the two points of interest: an increase in the consumption of fruits and vegetables and an increase in physical activity. To evaluate the positioning of these values in the teen population, midway measurements were taken at the end of each year and a final assessment at the end of the implementation of the plan.

The proposed goals were:

- To increase by 5% the consumption of 1 or more servings of fruit per day by 2018.
- To increase by 5% the consumption of 1 or more servings of vegetables per day by 2018.
- To increase by 5% at least 60 minutes a day of physical activity, at least 3 times a week.

Regarding the general goal of the “Move and Enjoy Life” program as estimated in the 2015-2018 National Development Plan, which positioned the Healthy Lifestyles indicator for 2017 goal at 24.5%, estimating an increase of 4.5% over the 2013 baseline measurement (20%), the goal was met. The measurement carried out in 2017 indicates that the Lifestyle indicator was 28.4%.

Table 1 shows that the indicator remained stable throughout three years and exceeded the goal established for each year. These positive results could be due to the work carried out in a coordinated manner by the three management levels of both the Ministry of Health and the Ministry of Public Education and the collaboration of private companies.

TABLE 1.

**EVOLUTION OF THE HEALTHY LIFESTYLES INDICATOR
“MOVE AND ENJOY LIFE”**

	YEAR OF IMPLEMENTATION			
	2015	2016	2017	2018
Percentage increase per year according to the National Development Plan	21%	23,5%	24,5%	25%
Measurement of the Indicator	28,7%	27,6%	28,4%	

Source: Unit of Determinants of Health. Ministry of Health 2017 (6).

Among the reasons why the program exceeded the established goal are:

- a)** Assignment of its own budget by the Ministry of Health.
- b)** Inter-institutional coordination between the Ministry of Health and the Ministry of Public Education where the actions of the program were carried out at the three levels of management of each institution.
- c)** The local coordination structure through local technical teams that articulate all the social actors in favor of the program's actions involving public and private resources.
- d)** Public-private partnerships: private sector companies have supported the program throughout these 3 years promoting the "Move and Enjoy Life" Tour, the permanence of actions over time translates into positive results, and actions such as the tour could not be carried out without the support of the private sector due to the onerous cost and complexity of its execution.
- e)** The commitment of the local liaisons between the Ministry of Health and the Ministry of Public Education. Since the program has been running since 2015, the local liaisons were able to build a sense of belonging to the program. This sense of belonging was possible thanks to the translation of their efforts into achievements, the allocation of materials to carry out their tasks and the support from the national and regional levels.
- f)** Student participation: activities were welcomed with a high degree of participation by the student population, which reflected an adequate selection of them according to teen preferences. This selection was possible thanks to the constant inquiry and consultation of the tastes and preferences of this age target throughout the 3 years, keeping in mind that the program is based on the investigation of the motivators and barriers that teens have towards healthy eating and physical activity. By having high participation in the activities held, empathy was guaranteed towards the program's message.
- g)** Use of new technologies to communicate with teens: the program developed digital marketing tools focused on the target population, such as the application for mobile devices *Ponele a la Vida* APP, Facebook page *Ponele a la Vida* and a Healthy Eating YouTube channel in which 12 videos were created with healthy recipes for ages 13 to 17. This facilitated communication with the teen population, thus improving the transmission of the message of promoting healthy eating habits and physical activity.

Other intervention strategies for the promotion of fruits and vegetables are the national campaigns carried out by the Costa Rican Social Security Fund (CCSS) that have continued to be communicated every year since 2015, on the importance of a varied and natural diet, preparing healthy plates that include fruits and vegetables. The CCSS is the public institution in charge of social security in Costa Rica, which executes programs for health promotion, prevention, cure and rehabilitation of diseases.

Since 2010, the CCSS has been conducting national surveys every 4 years on “Surveillance of risk factors for Noncommunicable Diseases”, especially cardiovascular diseases. The population considered for these surveys is over 19 years of age. Among the risk factors, the low consumption of fruits and vegetables has been considered. To date, three of these surveys have been conducted, 2010, 2014 and 2018 (7).

The following are the results of the percentage of the population over 19 that consumes 5 servings of fruits and vegetables per day.

TABLE 2.

PERCENTAGE OF THE POPULATION OVER 19 THAT CONSUMES FIVE SERVINGS OF FRUITS AND VEGETABLES PER DAY

YEAR OF IMPLEMENTATION			
	2010	2014	2018
Men	24.2%	41.9%	46.5%
Women	20.4%	29.9%	39.2%
Total	22.3%	35.9%	42.8%

Source: Surveillance Cardiovascular Risk Factors Survey of (7-9).

Although there was no evaluation to determine the factors that contributed to the increase in the consumption of fruits and vegetables, it could be attributed to the informative campaigns that have been carried out every year explaining the benefits of a healthy diet, with emphasis on the consumption of fruits and vegetables.

It should be noted that the promotion of fruits and vegetables is carried out through various programs, strategies, plans and projects such as the Dietary Guidelines for Costa Rica, the celebration of National Nutrition Week, World Health Day, Health Fairs, School Gardens, Family Gardens, Family Farming, Farmer's Markets, Seminars, Symposiums, Press releases, National Fruit and Vegetable Day where intersectoral activities highlight the importance of the production and consumption of fruits and vegetables.

CONCLUSIONS OR FUTURE CHALLENGES

The 5 a Day Strategy Costa Rica has been very well positioned in the country because since its official launch, most of the policies, plans, programs, strategies and projects related to health, nutrition, and food have included as one of the priority components, the consumption of fruits and vegetables as a protective factor for health and the prevention of non-communicable diseases. Intersectoral and inter-institutional work has been carried out with different social actors from the public and private sectors and with strong support from international cooperation.

It should be noted that many activities are carried out to promote fruits and vegetables, however, not all these activities are evaluated providing information on their true impact on the population.

For this reason, we want to highlight the “Move and Enjoy Life” program, which was a 3-year-program with measurable objectives and goals which was evaluated with positive results at the end of its period.

In conclusion, it is essential to have strategies, plans or programs that can start from a baseline, with measurable objectives and goals to in this way assess the successes and failures and thus achieve an increment in the consumption of fruits and vegetables among different population groups.

Future challenges: more human and financial resources to be able to carry out programs and campaigns for the promotion of fruits and vegetables among different audiences and scenarios that can be systematized and measurable so they can be replicated and; also achieve an increase in the consumption of fruits and vegetables for the benefit of the population.

SUMMARY

5 a Day Strategy Costa Rica is an initiative that is created with the aim of increasing the consumption of fruits and vegetables to help reduce non-communicable diseases and improve the quality of life of the population. In addition, this initiative seeks to increase agricultural production, and improve food security practices, as well as promote healthy eating habits in formal and non-formal education sectors.

The 5 a Day Strategy was established by official decree in 2007, which has been coordinated by the Ministry of Health and led by an intersectoral team made up of officials from the health, agriculture, and education sectors, and with the collaboration of international organizations such as the Inter-American Institute

for Cooperation on Agriculture (IICA), the Pan American Health Organization (PAHO), and the Food and Agriculture Organization of the United Nations (FAO).

With the implementation of the Strategy, it has been possible to incorporate the promotion of fruits and vegetables in various national and local plans, programs, projects and strategies in the field of health, education, and in all areas of food and nutritional security.

FOR MORE INFORMATION:

<https://www.ministeriodesalud.go.cr/index.php/redes/5-al-dia>

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CHILE

5 A DAY CHILE: ITS COMPONENTS, ACTIVITIES AND MAIN RESULTS

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BACKGROUND

Chile is a South American country with a population of 17,574,003 people according to the last 2017 CENSUS (1) with a 90 percent urban population and a per capita income of USD 25,000, with a very unequal distribution of wealth. Demographic changes have been very rapid in recent decades, with infant mortality decreasing from 82.2 per thousand live births in 1970 to 7 per thousand live births today. Life expectancy, which was 60.5 years for men and 66.8 for women in 1970, increased to 77.2 years for men and 82.1 for women today. At the same time, chronic non-communicable diseases (Chronic NCDs) exploded in the 1990s, particularly obesity, diabetes, hypertension, cardiovascular diseases, and cancer (2).

Today, Chileans present high prevalence of risk factors for Chronic NCDs and low presence of protective factors, such as the consumption of fruits and vegetables and physical activity. Furthermore, excess malnutrition affects 74.2% of its population over 15 (3) as well as children, whose prevalence of overweight and obesity reaches 51.7% for first graders, according to data from the National Board of School Aid and Scholarships (JUNAEB) (4). These data highlight the need to take concrete actions to prevent these diseases and contribute to improving the quality of life of the population.

Based on scientific evidence published since the 1980s on the health benefits of the adequate consumption of fruits and vegetables, the World Health Organization (WHO) in conjunction with the Food and Agriculture Organization of the United Nations (FAO) launched in 2003 a joint initiative to promote the consumption of fruits and vegetables, which is inserted in the Global Strategy on Diet, Physical Activity and Health (5). Within the framework of this international recommendation, Chile took on the challenge of promoting the consumption of fruits and vegetables through academics from the Institute of Nutrition and Food Technology (INTA) of the University of Chile. This action led to the creation of a non-profit corporation called “5 a Day Chile Corporation” or “5 a Day Chile”, officially constituted in 2006 with representatives from the University of Chile, other universities, producers, exporters, distributors and marketers of fruits and vegetables. Since the beginning, the Corporation has had the support of FAO, PAHO / WHO, the United Nations Development Program (UNDP) and the Ministries of Agriculture, Health and Education, among others public and private institutions.

The goal of 5 a Day Chile is to promote the consumption of 5 servings of fruits and vegetables a day. The primary goal was to raise awareness among the population on fruit and vegetable serving recommendations to stimulate their consumption within a healthy diet and to provide specific ideas to comply with the 5 a Day recommendation. In the long term, the goal is contributing to reduce Chronic NCDs.

The projects and activities carried out by 5 a Day Chile are within the existing country's food policies. This is how the National Food and Nutrition Policy of the Ministry of Health of Chile, published in 2017 (6) includes among its components promoting a healthy diet, where the use of the Dietary Guidelines for the Population (7) are recommended along with the frontal food labeling (8). The latest update of the Chilean Dietary Guidelines includes the message: “Eat 5 servings of different colored fresh vegetables and fruits per day”. 5 a Day Chile has contributed to the updating and dissemination of the Dietary Guidelines at a national level (9-11). It is important to note that despite the efforts made to spread the message of the guidelines, much remains to be done. Another regulatory aspect related to this issue is Law 20.606 on Food Composition and its advertising (8), which seeks to help consumers identify, through a warning message, foods that contain high amounts of calories, sugars, saturated fats and sodium, and also promote the development of healthier foods and maintain the population informed. This law is focused on the prevention of childhood obesity; that is why within its components stands out the prohibition of advertising foods “high in” aimed at children under 14 and the prohibition of selling, promoting and/or giving out foods “high in” within educational establishments. Consequently, food products allowed for sale in educational establishments



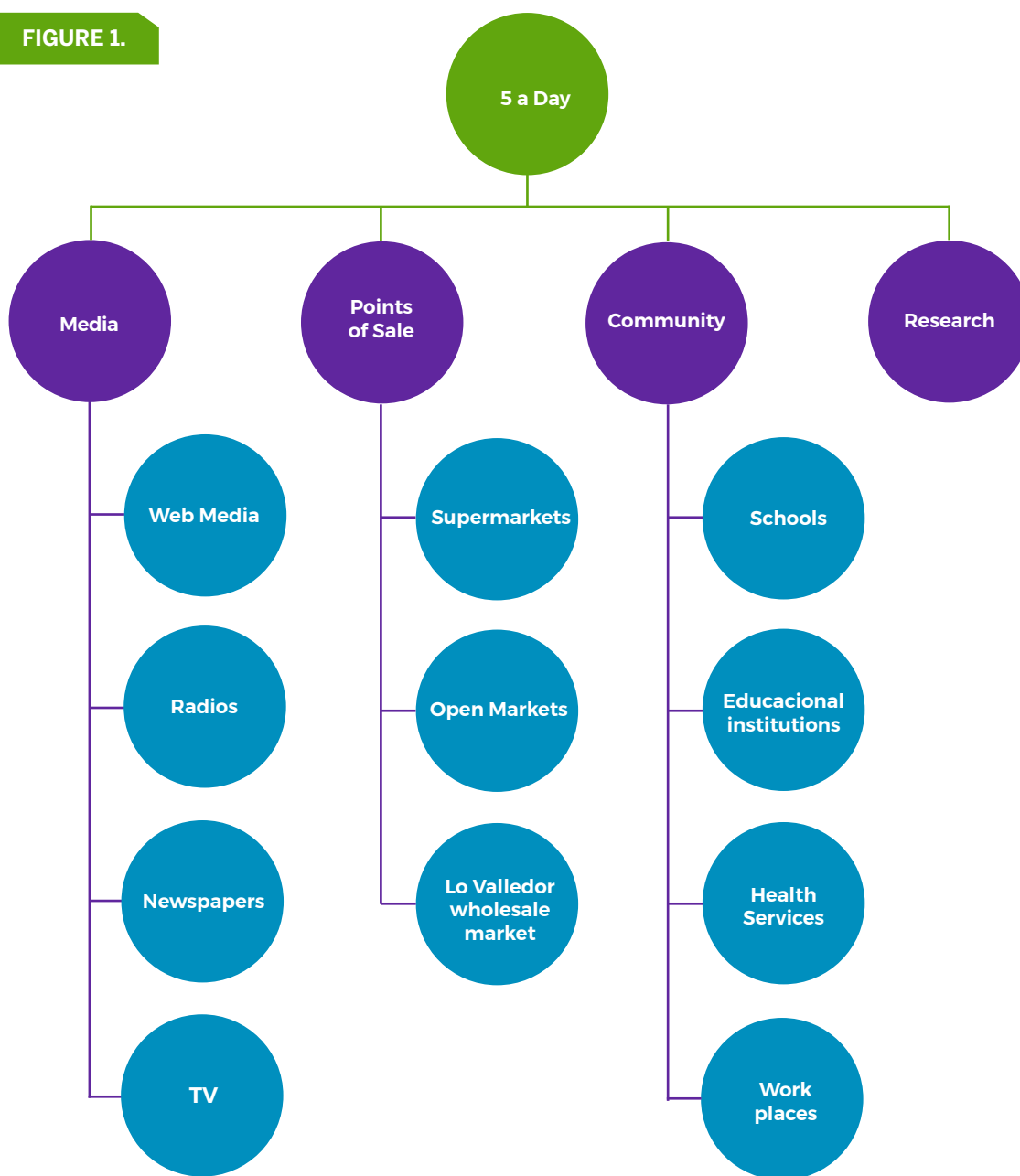
must be healthy, mainly fruits and vegetables. It is expected that this Law will be complemented with other internationally recommended measures to help solve the obesity problem in Chile (11-12).

5 A DAY CHILE PROGRAM

A series of actions are carried out to promote the consumption of 5 servings a day of different colored fruits and vegetables, within the context of a healthy diet and the promotion of physical activity. Since its creation, 5 a Day Chile has published a series of articles, books and documents that have helped spread information on the program, disseminate the results and support initiatives aimed at promoting healthy eating (9-24).

The following Figure 1 shows the main action areas of 5 a Day Chile.

FIGURE 1.



This chapter describes the interventions performed by 5 a Day Chile.

MEDIA

INTERVENTIONS PERFORMED BY 5 A DAY CHILE

For 5 a Day Chile, its website and social media have been one of the main means to carry out the advertising campaigns, with the purpose of promoting consumption of fruits and vegetables, using the available technology. The interest and usefulness that social media has acquired, especially for the younger population who are difficult to reach by other means, constitute an important virtual space for sharing information, planning activities and maintaining communication between users. At present, due to the health emergency that is being experienced worldwide with Coronavirus, the use of social networks has acquired greater relevance and its use has been intensified throughout the world.

The social networks used for the digital marketing campaigns of 5 a Day Chile are: Twitter, Facebook and Instagram and all these networks are complemented with the information that is constantly updated on the 5 a Day Chile website, as well as the periodic distribution of a newsletter. The general objective of these campaigns is to promote healthy lifestyle habits with an emphasis on the consumption of fruits and vegetables in the context of the current situation, or in relation to events such as mother's, father's or teacher's day, to name a few. Also in relation to national or international events, such as sports championships.

These campaigns have been carried out within the framework of a collaboration agreement with the Undersecretariat of Agriculture of the Ministry of Agriculture of Chile, from 2007 to 2020.

SOCIAL NETWORKS RESULTS

5 a Day Chile has been on Facebook since June 2014, initially with 42,473 followers which increased to 163,308 by 2020. Twitter, in June 2014 had 4,536 followers, reaching 11,288 in 2020. The Instagram account was created in December 2015 with 1,225 followers, today reaching 21,000.

SOCIAL NETWORKS EVALUATION AND COMPARISON WITH NATIONAL DATA

One of the actions carried out to evaluate the impact of the campaigns on social networks has been the application of an online survey, which was applied for the first time in 2014, then in 2015, 2018 and 2019. The audience that responded to this survey was of both sexes, of different ages and from different regions of the country. This survey is aimed at network users that respond voluntarily, so it is only a reference and it is not a representative sample that can be generalized to the whole country.

TABLE 1.

RESULTS OF THE 2019 “ONLINE” SURVEY ON CONSUMPTION OF FRUITS AND VEGETABLES

CONSUMPTION FREQUENCY	FRUITS (%)	VEGETABLES (%)
2 times a day	44	42
3 times a day	21	23
Once a day	23	23
4 times a day	5	8
5 times a day	4	3

Source: Determinants of Health Unit. Ministry of Health 2017 (6).

Table 1 shows the results of the 2019 survey, which was answered by 1,644 people of both sexes. In this survey, the consumption of fruits and vegetables was consulted separately and yielded the following results:

The 2014 results revealed that 30% of those surveyed (n = 1,925) indicated that they had heard the 5 a Day message, a percentage that increased to 64% in 2018. Regarding the consumption of fruits and vegetables in the 2014 survey, 10% of those surveyed indicated that they consume 5 or more servings of fruits and vegetables a day, while in 2018 the percentage of people who said they consume 5 servings of fruits and vegetables a day was 20% and 50 % indicated consuming 3 to 4 servings per day.

Although it is true that these results show that both knowledge about the recommendation and consumption has increased, it is clear that there is still a long way to go before the entire population complies with the recommendation. For this reason, it is expected that the actions carried out during the International

Year of Fruits and Vegetables 2021 and the years to come will contribute to significantly increase consumption in the population.

According to the 2016-2017 National Health Survey (3), only 15% of the Chilean population consumes 5 servings of fruits and vegetables a day, a percentage that varies according to sex, where 16.4% of women and 13.6% of men comply with the 5 a day recommendation. According to educational level, significant differences were found when analyzing the consumption of fruits and vegetables: in the highest socioeconomic level the consumption was 20.1%, compared to 13.7% in the lowest level.

In relation to the average daily consumption of fruits and vegetables, data from the same National Health Survey 2016-2017 (25) indicate an average consumption of 178 grams per person per day, while the National Survey of Food Consumption (ENCA) (26) showed that the median consumption of fruits in the country was 168 grams per day and the median consumption of vegetables was 227 grams per day.



CAMPAIGN IMAGE ON SOCIAL NETWORKS

Other Media: TV, Radio and Written Media

In addition to social networks, 5 a Day Chile has been present in other media sources such as television, where commercials were shown for four years with different spot each year, for two months a year, with emblematic sports figures on the main Chilean television channel. Representatives of 5 a Day Chile have been interviewed at least five times a year on radio shows with a large national audience, such as “Agricultural Agenda”, among others.

On the radio, 5 a Day Chile appears 10 to 15 times a year on the radio show “The Right Measure”, an INTA and Radio Cooperativa program broadcasted all Saturdays or Sundays every year, as well as on other radios where representatives of 5 a Day are invited. These invitations intensify in October prior to the FAO World Food Week and the National Day of Fruits and Vegetables established by presidential decree in 2017.

POINTS OF SALE

Since its creation, 5 a Day Chile established a strategy to reach specific target groups, such as schoolchildren and consumers who go to fruit and vegetable sales points in the country, which are farmers’ markets, supermarkets and the wholesale market Lo Valledor. 5 a Day Chile has permanently been in contact with these institutions since the very beginning, including the participation of their representatives on the Board of Directors.

The actions carried out with the Farmers’ Markets Association (ASOF), which groups together representatives from 1,114 markets spread throughout the country have been multiple. The most important are training programs for exhibitors, so they understand the protective value that fruits and vegetables have on our health due to their high content of bioactive products and antioxidants. The objective is to educate consumers on the importance of consuming these products to preserve their health and improve their quality of life. There have also been multiple face-to-face interventions with consumers delivering information and educational materials.

In the case of supermarkets, we have permanently worked with the Chilean Supermarket Association (ASACH) and campaigns have been carried out with each of the main supermarket chains in the country to promote the sale and consumption of fruits and vegetables. Campaigns consist in highlighting and improving the placement of fruits and vegetables at the points of sale and

campaigning on mass media about the need to consume at least 5 servings of fruits and vegetables a day. One of the first campaigns was carried out in 2007, at the beginning of 5 a Day Chile, with a massive television promotion of a local supermarket chain entitled “5 is Life”.

Different actions have been carried out with the largest wholesale market in Chile, Lo Valledor, such as educational campaigns to raise awareness among the population of the benefits of consuming fruits and vegetables; healthy community cooking workshops; fruit handouts; promotional and educational material at mass activities (marathons, anniversaries, parties, sports championships, seminars, courses and others); health fairs at schools; hygiene and food handling workshops, and sustainable fairs that promote actions to avoid food waste.

COMMUNITY

INTERVENTION STRATEGIES AND RESULTS AT SCHOOLS

For the purposes of this chapter, the main activities carried out at schools in recent years are described below.

Table 2 presents the description of 3 projects implemented at schools to promote the consumption of fruits and vegetables in Santiago and regions of Chile. The methodology defined in the “BKN Snack Program” was based on the experience of similar interventions carried out in the United States (27) and in the European Union (28), adapted to the national reality, in which fruit was delivered at schools with nutritional information educating schoolchildren and forming the base for the other two Programs: “Grow Healthy with Tottus” and the Lo Valledor “Green Stand” carried out in the last years. These interventions were implemented at low-income schools in urban and rural districts. The estimated scope of each of the interventions includes parents, guardians and teachers, as well as the schoolchildren.

The general objective of these programs is to contribute to increasing the consumption of fruits and vegetables in the context of a healthy diet in the selected school population, by improving the supply of fruits at the school level and helping to a better knowledge and practices on food and nutrition among children, including nutrition education in the classroom as part of the educational curriculum.

TABLE 2.

DESCRIPTION OF 5 A DAY INTERVENTIONS AT SCHOOLS TO PROMOTE THE CONSUMPTION OF FRUITS AND VEGETABLES

PROGRAM	BKN SNACK	GROW HEALTHY WITH TOTTUS	GREEN STAND
N° of Schools	14	21	5
N° of Students Intervened	2.144	4.652	446
Annual Scope	6.432	13.956	1.338
Years of Intervention	2013-2018	2014-2019	2016-2019
Activities Performed			
Assessment of the nutritional status of schoolchildren (measurement of weight and height)	X	X	X
Delivery of fruit to schoolchildren and school community 3 times a week	X		
Daily fruit delivery to school snack stand			X
Educational sessions on healthy eating for schoolchildren	X	X	X
Active recess at schools (exercises and dance)	X	X	
Physical activity prior to handing out fruit in each classroom	X		
Advice for physical education instructors and their classes	X		
Active pause teachers and parents	X		
Healthy eating workshops for teachers and parents	X	X	X
Physical activity workshop with parents	X		
Advising and supervising school snack stands	X	X	X
Healthy snacks contest	X		
Chef taught healthy cooking workshop	X	X	X
Events with the community to promote healthy eating and physical activity (Running and cycling)	X	X	
Delivery of educational materials on healthy eating and physical activity (brochures, animated video capsules, among others)	X	X	X
Teacher and parent focus groups	X	X	X
School community satisfaction survey regarding the development of the project	X	X	X

INTERVENTION DESIGN

Interventions are composed mainly by: fruit handouts; education in healthy eating, physical activity, school snack stands and the monitoring and evaluation plan.

- **Fruit Delivery:** in order to form fruit consumption habits in children, as part of the “BKN Snack Program” program, good quality and varied fruit was delivered three times a week to all school children from pre-kindergarten to the 8th grade and the rest of the school community, that is, teachers, food handlers and aides, in order to encourage commitment and set an example for schoolchildren (15, 19). While the “Green Stand Program” was available every day at the school snack stand, which was given out at no cost for the school.
- **Workshops for Teachers, Parents and Guardians:** with the purpose of training and motivating teachers, parents and guardians, each of these programs included talks and workshops during the school year. Four to five sessions were held yearly with topics such as: dietary guidelines, benefits of consuming fruits and vegetables, nutritional labeling, school snacks, physical activity. There was also at least one healthy cooking workshop taught by a chef during the school period.
- **Classroom Educational Intervention on Healthy Eating:** 7 topics were developed based on the messages of the Dietary Guidelines for the Chilean Population (7) with recreational activities accompanied by didactic materials which were developed taking into consideration the skills of the schoolchildren of each age group (15, 18-19). We worked with children from pre-kindergarten to the fourth grade with classroom interventions on healthy eating, which were implemented by a nutritionist, on a monthly basis, per class with the collaboration of the head teacher.
- **Physical Activity:** The “BKN Snack Program” program brought physical education instructors to each school to support Physical Education classes, promoting active recesses and carrying out activations in classrooms before delivering fruit.
- **School Snack Stand:** The programs “BKN Snack”, “Grow Healthy” and “Green Stand Program” trained the people in charge of running the school snack stands and provided nutritional support in order to be in compliance with Law 20.606 (8) on the nutritional composition of food and its advertising, which regulates advertising and selling foods high in calories and in critical nutrients (saturated fat, total sugars, and sodium).

- **Evaluation:** the evaluation plan included the quantification of the fruit handout, a survey on food consumption and physical activity, measurement of knowledge, evaluation of nutritional status, conducting focus groups and satisfaction surveys at the beginning and at the end of each year.

RESULTS AND CONCLUSIONS PER PROGRAM

“BKN Snack”

- There was an increase in the consumption of fruit, in quantity and variety, by schoolchildren; a better attitude of the school community about healthy eating; motivation in terms of physical activity and placing value on the program.
- The fruit handout was carried out in a successful, attractive way and was of great interest to the school community that consumes it.
- Nutritional education, carried out by a nutritionist in the classroom, with the help of the teacher, was certainly an instance of learning, both for schoolchildren and for the teacher. An increase in knowledge about healthy eating was observed in the intervened classrooms.
- Opting for healthy snacks, such as fruits and dairy products, by schoolchildren increased” por “Increased the choice for healthy snacks, such as fruits and dairy products, by schoolchildren.
- The workouts directed by the program’s physical education instructors, contributed in the promotion of being in movement and energy expenditure by schoolchildren and teachers.
- Parents, guardians and teachers, participants in healthy eating workshops, showed interest in the subject and expressing the usefulness of the contents discussed.
- The training visits made to the concessionaires of the school snack stands, allowed to contribute to the fulfillment of the provisions of Law 20.606 on food composition and its advertising.



- During each intervention period, overweight and obesity rate levels did not increase while during non-intervention periods, an increase in overweight and obesity was observed.
- The Program contributed to promoting healthy lifestyles in schoolchildren, their families and the school community.

“Grow Healthy with Tottus”

- Increase in the selection and consumption of healthy snacks such as: fruits, vegetables, dairy products, nuts and water.
- Enhance knowledge on dietary guidelines and the negative consequences of consuming unhealthy foods.
- During the final stage of the program, a high percentage of schoolchildren used the warning labels to select the food they bought.
- The program, during its 6 years of implementation, successfully fulfilled its objective of educating the school community on healthy lifestyles, which included students from pre-kindergarten to the fourth grade, their respective teachers, parents and guardians. This statement is based on the responses and attitudes of schoolchildren, parents and guardians on the positive effect of the program in acquiring knowledge and practices to lead a healthy life.



“Green Stand”

- The program helped in improving the school environment, increasing access to fruit supply at the participating schools. The execution of feeding sessions made it possible to increase the consumption of fruits, vegetables and water intake and to enhance knowledge on the dietary guidelines and the benefits of a healthy diet.
- The program was valued by principals, teachers and schoolchildren, who considered that it contributed to improving the quality of life of students and the school community.



Health Services

- In 2007, an agreement was made with the Ministry of Health to train health services professionals from all over the country, and subsequently the service managers were also trained. Educational material on the 5 a Day Program was prepared and distributed massively at primary care centers throughout the country.
- Dietary Guidelines update: the incorporation of the 5 a Day message was achieved in the 2007 revision, which was ratified in the update carried out in 2013 (7). In 2019, a proposed strategy for the implementation of the dietary guidelines was made by the different sectors of care for the population, based on the food and nutrition policy of the Ministry of Health.
- In 2019, an educational program for family and caregivers of children under 5 was prepared for the Ministry of Health, addressing healthy habits with emphasis on the consumption of fruits and vegetables (16,17).

Interventions at Workplaces

One of the main actions carried out was within the “Grow Healthy with Tottus” program, where 5 a Day provided a consultancy service to carry out a counseling for employees of 40 stores of the supermarket chain, present in the Metropolitan, Valparaíso, Libertador General Bernardo O'Higgins and Maule regions.



Educational Institutions

5 a Day regularly participates in classes spreading its message to undergraduate and graduate students from different universities. It also participates with a promotional stand handing out educational material and advice for students, teachers and the university community.

RESEARCH

Since its inception in Chile as part of the Institute of Nutrition and Food Technology (INTA) of the University of Chile, 5 a Day has participated in numerous research projects related to the subject. A project that stands out is one carried out with the Faculty of Agronomy of the University of Chile that seeks to introduce snack-type products derived from dried fruits and vegetables into the JUNAEB (National Board of School Aid and Scholarships) School Feeding Program (PAE) that reaches 1,800,000 children out of the 11,000 urban and rural schools in the country, which resulted in these products being present in the diet of these schoolchildren. In addition, the PAE has been able to incorporate more daily servings of fresh fruit into children's menus (29).

The other interesting project was the analysis of the antioxidant composition of most of the country's fruit and vegetable products, carried out in two phases: the first for fruits and the second for vegetables. This is expected gave rise to a free access web page (<https://www.portalantioxidantes.com/>) where users can check the antioxidant composition of every fruit and vegetable product produced in Chile (30).

5 A DAY PUBLICATIONS

From the start, a series of books, manuals, articles of a scientific nature and for the community have been developed, addressing topics such as fruit and vegetable based recipes, the scientific evidence that supports these recommendations, food losses and waste, production and consumption of fruits and vegetables among others. The publishing of the books has been carried out under a collaboration agreement with the Undersecretariat of Agriculture (<http://5aldia.cl/material-descargable/>).

OTHER ACTIONS:

I Institutionalize National Fruit and Vegetable Day.

During 2017, the pertinent procedures were carried out with the Ministry of Agriculture to establish a day in October as the “National Fruit and Vegetable Day”. This action aims, among others, to stimulate the national production in sufficient quantity and quality to broadly satisfy local consumption needs, as well as both national and international demand. This is expected benefit the increase in the production of small and medium-sized national producers, which are the ones that mainly provide these products.

I Foster innovative initiatives to avoid food loss and waste (PDA).

Taking part in seminars, courses and talks to educate and motivate both professionals and consumers to avoid PDAs. In addition, our social media followers are constantly being sensitized to become aware of this issue.

I Joining forces with International Organizations.

Along with the FAO, the Chilean Ministry of Agriculture and members of the Global Alliance for the Promotion of the Consumption of Fruits and Vegetables “5 a day” have led and arranged for 2021 to be declared before the United Nations as the “International Year of Fruits and Vegetables”.

5 a Day Chile has encouraged and supported the Second FAO/WHO International Fruit and Vegetable Workshop carried out in August- September 2020, with the objective to establish recommendations based on scientific evidence on health effects, public policies and programs, and on fruits and vegetables value chains.

SUMMARY

The 5 a Day program has been carrying out actions to promote the consumption of fruits and vegetables in Chile since 2004. The work in different areas has allowed to increase knowledge on consumption recommendations; however, changes in intake have been modest. Great challenges still remain in achieving an increase in the consumption of fruits and vegetables among the Chilean population, for health benefits as well as strengthening the entire production chain up to the sale.

The international year of fruits and vegetables, which will be celebrated in 2021, presents a very valuable opportunity for all sectors, both public and private, in helping to contribute in facilitating and promoting the consumption of fruits and vegetables, educating the entire community prioritizing children, physical and economic access and the reduction of losses and waste. These actions will allow a sufficient and adequate consumption of these products for the Chilean population to protect against Chronic NCDs.

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FOR MORE INFORMATION:

<http://5aldia.cl/>



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SPAIN

PROMOTING FRUITS AND VEGETABLES CONSUMPTION IN SPAIN OF THE “5 A DAY” ASSOCIATION.

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BACKGROUND

The daily consumption of at least 5 servings of fruits and vegetables contributes to a healthier diet at any stage in life, and scientific evidence associates it with a lower risk of mortality and suffering from non-communicable diseases; with its greatest risk factors being obesity/overweight, hypertension, metabolic syndrome and dyslipidemias, among others (1). Recent studies on the risk associated with unhealthy lifestyles attribute 2 million deaths worldwide to low vegetable consumption, a figure that rises to 2.9 million in the case of low fruit consumption (2).

One of the great scourges of today's society is obesity, associated to tremendous public health problems, due to its direct association with general mortality and as a prevalent risk factor in non-communicable diseases. At a global level, numbers for overweight and obesity have sky rocketed from 857 million in 1980 to 2.1 billion in 2013 (3). Spain is one of the European countries with the highest prevalence, with 61.1% of the adult population being overweight (21.6% obese and 39.5% overweight) being higher in men (69.3 %) than in women (57.7%) (4). Figures are also very worrying among the child population aged 6 and 9, as 41.3% suffer overweight or obesity, 23.2% corresponding to being overweight (22.4% in boys and 23.9% in girls) and 18.1% to obesity (20.4% in boys and 15.8% in girls) (5).

Scientific evidence supported by the international health authorities regarding a quantified recommendations for fruits and vegetables consumption, motivated the creation, in the United States during the late 80s of the international movement named “5 a Day”. Since then, the movement spread throughout all over the world, as one of the best strategies in promoting fruits and vegetables consumption at a global level for better health and the containment and control of non-communicable diseases and their risk factors. Currently, most of these national entities, many of them called “5 a Day”, make up the Global Alliance for the Promotion of Fruits and Vegetables Consumption “5 a Day” - AIAM5 - which brings together more than 40 national entities dedicated to the promotion of healthy habits through the daily consumption of fruits and vegetables (6).

“5 A DAY” IN SPAIN

In Spain, the entity that has managed this initiative since 2000 is the Association for the Promotion of Fruits and Vegetables Consumption “5 a Day”, a national non-profit association which promotes the consumption of fresh fruits and vegetables, as well as physical activity and healthy lifestyles.

The “5 a Day” Association is governed by its board of directors made up of companies from the fruit and vegetable sector representing areas of production and trade at origin, distribution and trade at destination as well as companies of services. Its members are democratically elected in a general assembly, made up of more than 600 members.

It is primarily financed through the annual contributions of its partners, as well as through collaboration agreements with companies and public sector. The Association is managed by a professional team and has a Scientific Committee as an advisory body on food and health.

Its main objectives are to:

- Increase the consumption of fruit and vegetables among the Spanish population.
- Promote healthy eating habits.
- Inform about the benefits of daily consumption of fruit and vegetables, especially to children and young people as future consumers.
- Train in healthy lifestyles and the improvement of food environments, to reduce the risk of obesity, especially that which affects children and young people.



The Association's health message is "to consume at least 5 servings between fresh fruits and vegetables per day, whole rather than liquified, varied and seasonal, and preferably locally produced, all within the framework of a healthy diet and active lifestyle".

In the cultural, culinary and consumption context of the Spanish society, the recommendations of "5 a Day" translate into daily consumption targets of at least 3 servings of fruit and at least 2 of vegetables. The reason for this differentiation is based on the food pattern and food culture of the Spanish population, so that the recommendations are consistent and feasible. Fruits present consumption opportunities as desserts for lunch and dinner, as part of a breakfast, or snacks, and vegetables as ingredients, main dishes, appetizers or side dishes for lunch and dinner.

THE "5 A DAY" SCIENTIFIC COMMITTEE

The "5 a Day" scientific committee is a key part of the Association, which gives added value to all its messages and activities, providing evidence-based information and adapted to current European regulations in the area of consumer information (7).

Its main function is to advise the board of directors and the Association's professional team on nutrition and food matters, as well as to its partners, collaborating companies and consumers.

To fulfill its objective, the committee is made up of a wide variety of food, nutrition and dietetics professionals, as well as from the fields of food science, food technology, agriculture, research and development (R&D), and horticulture sciences. It meets in person at least once a year, and prepares documents on consensus, opinions, positions, reports, scientific statements, etc., derived from consultations, regulations and situations, of a scientific nature that arise in the Association, with a special emphasis in the revision of all communication related to health addressed to the consumer.



The documents prepared by the committee are hosted on the web and are available to the entire population, delimiting only some of them to its members. Among the main documents are the Benchmark Document, which establishes the Standards for Foods to be part of the "5 a Day" Recommendations (8), the Proposal of Fruits and Vegetables Servings for the Spanish Population (9), the Position of the "5 a Day" Scientific Committee regarding the Consumption of Juices in the Framework of a Healthy Diet (10), the Communication Guidelines of Fruits and Vegetables and Health, aimed at communication, health and education professionals, as well as the Nutritional and Healthy Claims Database based on the European Regulation on Food Information to Consumer (11). This document compiles, for members, all the nutritional data on fruits and vegetables and the claims allowed and authorized for commercial communications. Since the end of 2019, a Scientific Newsletter has been published quarterly to share with the population issues related to health and the consumption of fruits and vegetables.

CONSUMPTION OF FRUIT AND VEGETABLES IN SPAIN

The most recent data from the National Survey of Food Consumption in the Spanish Population (12), shows that the average daily consumption of fruits and vegetables in the adult population (18-74 years old) is below recommendations, 310g per person per day, divided into 175g of fruits and 134g of vegetables; while in children between 10 and 17 years old, the average total daily consumption is 275g (164g of fruits and 107g of vegetables) (13). If we consider the servings sizes proposed by the "5 a Day" Association (9), it would barely reach daily 3 servings in both population groups.



The age group that consumes the most, with a total of 385g, is 65-74 and the least (242g) is 18-39 years old. As for the consumption of juices, in adults it is 49ml per person per day, a reaching 125ml in children.

Furthermore, according to the latest National Health Survey 2017 (14), 34% of adults (25-74 years old) do not consume fruits on a daily basis (28% in women, 40% in men), numbers that in children and young people (5 -24 years) reach 48%. Regarding vegetables, 57% of adults do not eat vegetables on a daily basis (50% in women, 64% in men), numbers that escalate to 69% in children and young people.

According to data from the evaluation and monitoring of the NAOS Strategy for the Promotion of Nutrition, Physical Activity and Prevention of Obesity lead by the Ministry of Consumption (15), only 9.7% would comply with the daily consumption recommendation of at least 5 servings between fruits and vegetables, being higher in women (10.83%) than in men (8.52%). However, this number barely exceeds 3% (3.38%) in children and the younger population.

Although the data are not entirely comparable, since the methodology used is different from that used in the aforementioned studies, the 1991 National Study of Nutrition and Food (ENNA 3) (16), carried out from surveys of household consumption, shows a downward trend in fruit consumption, from 300g per

household, per person a day in the 1980s to 282g in the 1990s, a trend that would be similar in vegetables, decreasing from 202g per household, per person a day in the 1980s, to 173g in the 1990s.

Finally, considering the Food Consumption Panels of the annual series of the Ministry of Agriculture, Fisheries and Food, the annual consumption of fruits in Spanish households went from 99 kg per person in 2015 to 91 kg in 2018. The trend is also downward with vegetables, going from 60 kg in 2015 to 57 kg in the 2018 series (17).

In its 20 years of promoting the consumption of fruit and vegetables, the “5 a Day” Association has acted in the fields of health, food and nutrition, sport and physical activity, education and sustainability, with an educational and social marketing approach, as well as corporate social responsibility through its partners and collaborating companies.

The logo that identifies the “5 a Day” Association, a hand with 5 colors, is widely present in fruit and vegetable packaging produced and marketed by its partners, as well as on social media content and communications, with a great impact on the visibility of the brand and the message.

Its main lines of work include the development and execution of activities to promote the consumption of fruits and vegetables and healthy lifestyles in school, workplace and community settings. Many of these sessions include training and dissemination of information on healthy and sustainable eating, in formats ranging from animations at points of sale, plays or games, to cooking and educational workshops, where the handling, tasting and delivery of fruits and vegetables is a common practice.

The activities are financed by the partners, collaborating companies, and are mainly managed through collaboration agreements.

Most of the actions are aimed at providing added value to its members, through interventions at the points of sale, use of the “5 a Day” logo on their products, nutritional advice on their products and communication and support content at their events. Among the most frequent tools and activities are the development of video recipes, tastings and product information, support at sporting events, corporate responsibility actions, etc. Among others, the initiative “At your home or at 5 a Day” stands out, through which a video on the production and distribution of the members’ products, as well as oddities, recipes and consumption opportunities is issued and disseminated. Other outstanding action is the annual Professional Conference organized by the Association and attended by



more than 300 professionals from the sector. The association also supports its partners in national and international fruit and vegetable conventions and fairs, such as Fruit Attraction, AECOC Fruit and Vegetable Congress, or Fruit Logistica.

Likewise, there are numerous collaborations with the public sector through educational and communication materials generated by the Association, such as its educational program, La Frutoteca or “Rescue your 5”, contributing content to national and regional campaigns, such as, the European Program School Fruits and Vegetables Scheme. Between 2004 and 2007, it received funds from the European Union and the Ministry of Agriculture, Fisheries and Food (18) to lead a national campaign that generated high recognition of the brand and the “5 a Day” message, reaching more than 1,000 million and 2,134 GPR’s, carried out through the generation of an educational program aimed at children between the ages of 6 to 12 that was offered to all the educational centers of the country, radio and television commercials, merchandising products, etc. (19) Although the impact of the campaign on the intake of fruit and vegetables in the Spanish population was not directly evaluated, according to the Food Consumption Report of the Ministry of Agriculture, Fisheries and Food, the intake of vegetables in the months of January to December 2005 increased by 5.4% while fruit did so by 4.7%, compared to the amounts consumed in the same period of previous years.

Although scientific evidence indicates that health promotion actions among the community, such as those endorsing the consumption of fruit and vegetables, are efficient for health related matters (20,21), their evaluation involves very high costs for nonprofit organizations, such as the “5 a Day” Association, which in general has a lack of infrastructure and resources to carry them out. However, some actions, such as the efficiency of the “La Frutoteca”, was assessed, although not its impact on the fruit and vegetables consumption, as explained below. In this regard, it is worth highlighting the collaboration that the Association carried out with the University of the Basque Country, supporting a school based program with materials, contents and the use of the “5 a Day” logo on educational materials, which concluded with an increase of 0.5 servings of fruits and vegetables in the intervention group compared to the control, and which was maintained after one year of having participated in the program (22).

A PUBLICITY ASSET

Digital tools are one of the most and best exploited by the “5 a Day” Association, and have contributed to its positioning as a benchmark in quality information facing the different sectors of Spanish society, from consumers, to health and communication professionals, as well as to its partners and the food industry.

The communication, marketing and design department develops content related consumption, health, production, preservation, waste reduction, etc., of fruits and vegetables, as well as others in a more playful and motivational approach. The more than 50,000 followers on social networks, the high impact of some of the posts, some reaching 270,000 in a single day, the almost 40,000 annual visits to the website, the issuance of about 100 annual press releases, answering consumer questions, the monthly and quarterly issuance of informative and scientific newsletters, respectively, have contributed to the high institutional reputation of the entity.

Likewise, it collaborates on a monthly basis on public radio shows communicating the benefits of consuming fruits and vegetables, reaching an audience of more than 1.2 million (23). It also contributes to contradicting fake news and food hoaxes through thematic platforms with a high media impact.

“5 A DAY” EDUCATIONAL PROGRAM

The program was developed during the 2004-2007 campaign with funding from the European Union and the Ministry of Agriculture, Fisheries and Food, to address the promotion of fruit and vegetable consumption within the framework of a healthy diet, and was designed to be taught by teachers in the 4 official languages of Spain (19).

Its objectives were to inform and educate children on the health benefits of fruits and vegetables, influence the adoption of healthy habits in children and their families, striving to prevent childhood obesity, increase the consumption of fruits and vegetables among the child population, and favor the participation and involvement of fathers, mothers, caregivers, teachers and other community agents.

It is aimed at school children between 6-12 years old and consists of 288 descriptive fruit and vegetable flash cards, adapted to each age group, 390 pedagogical guides to be taught once a week in the different educational cycles, two annual magazines aimed at students, their parents and other family members, and multimedia support content accessible on the corporate website. In later years, content was added for the age group of 3 to 5. Between 2004 and 2007 the program was subsidized by the Ministry of Agriculture, Fisheries and Food. From 2007 until 2012, it functioned thanks to sponsorships provided by the partners, regional public administration offices and the Association itself. The average annual reach was 425,000 school children. As of the 2012-2013 school year, its continuity was limited by the workload it entailed for teachers, as well as the need to adapt content to new educational platforms. The program is not currently active.



“LA FRUTOTECA”

From 2015 to 2018, the Association ran the project called “La Frutoteca”, with the aim of bringing the world of fruits and vegetables closer to children, in a playful and fun way (24). The project consisted of a portable inflatable dome in which a 3D video was projected in 360° that explained the path that fruits and vegetables travel from the farm to the table. This intervention was carried out throughout the Spanish geography at the request of educational centers and, to a large extent, as an accompanying educational measure to the European School Fruits and Vegetables Scheme (25). In addition, and within the framework

of this European program, along with the accompanying measures and the La Frutoteca itinerary, in 2017 content for an informative bulletin aimed at the families of schoolchildren who received the program in the region of Castilla y León was developed, for the promotion of fruit and vegetables consumption, reinforcing the message of family oriented playful and educational activities (26). 300,000 copies were printed and distributed to families. The European Commission considers that the accompanying educational measures of the School Fruits and Vegetables Scheme are essential to achieve that the distribution of fruit and vegetables is contextualized within the framework of a healthy diet.

In 2016, the scientific committee proposed the evaluation of the activity, proposing different measurement indicators of effectiveness and efficiency, considering intervention and control groups. After assessing the characteristics of the activity and considering that the intervention was relatively short and isolated, and taking into account the costs associated with planning, collecting and evaluating field data, it was decided that only data on the effectiveness and scope would be collected.

Consequently, during the January to December 2016 period, 102 schools were reached, of which 52.9% were public preschool and elementary educational centers, reaching a total of 17,857 children from the third to sixth grade, and exceptionally 5 high school groups. The number of schoolchildren who visited La Frutoteca at the 6 markets in which it was installed is not available. In total, 712 screenings were performed in school environments. The sessions were held





in 75 localities, in 28 provinces and in 13 Autonomous Regions. In two regions, the activity was framed as an accompanying educational measure to the European School Fruits and Vegetables Scheme, specifically with 258 sessions held in Castilla y León and Extremadura regions. Besides the 6,450 children who participated in the intervention in the framework European program, another 7,450 schoolchildren from 6 other regions received at least one portion of fruit and vegetable once the activity was over. It should be noted that by the end of the 2016-2017 school year, three Spanish regions had already reserved La Frutoteca for the following academic year as an accompanying educational measure to the European program.

Throughout the interventions, some qualitative data were collected, although not in a systematic way, which helped to measure part of the impact that the sessions had on schoolchildren. Among the comments collected are: So cool! Does the dome really move? Can we see it again? Wow! It feels like we are going inside the apple! We loved it! We want to repeat it! This is really cool! As for the teachers, numerous emails were received praising the activity and referring to how supportive the sessions were in helping to continue promoting healthy habits at school in the different programs they were already developing, such as the distribution of fruit at school, healthy snacks and breakfasts actions, health weeks, etc.

Among the opportunities to improve the impact of La Frutoteca, a series of school focused activities were proposed, many of them derived from the Association's educational program, which could be carried out independently by the school to promote healthy school environments and fruits and vegetables consumption, such as: mini health education projects, assessment of school menus quality and food served in the school setting, cooking workshops, school gardens, "fruit-consumption-meters", etc., placing La Frutoteca as a central activity of a larger project of each school.

The evaluation report, and despite the limitations of the data collected, concluded that La Frutoteca could be a cost-efficient tool, being widely accepted by schoolchildren and teachers, and having a high potential as an accompanying educational measure to health promotion programs.

PROMOTING PHYSICAL ACTIVITY

The Association also develops activities to promote the practice of physical activity, participating in sporting events providing fresh fruits to participants, training sports center users, etc. It has been organizing its own solidarity paddle tennis tournament for three consecutive years in Madrid, Malaga and Seville, donating all the funds over 300 registrations to the Food Bank of the city. Participants receive promotional material, a healthy snack and water and fresh fruit throughout the competition.



RESCUE YOUR 5 - SCHOOL - BASED ACTIVITY

The “Rescue your 5” project was launched towards the end of 2019, which consists of a children’s escape room based on the importance of consuming fruits and vegetables. During the first part of the game, students watch a video on “The power of 5” and the effect that daily consumption of fruits and vegetables has on health. During the second part, each team strives to solve the riddles that will release the 5 servings of fresh fruits and vegetables in the escape room.

Since this is a fairly new implementation, its impact has not been high, especially due to the premature interruption of the school year due to the health crisis. However, given the characteristics of the game and the experience and feedback received, the Association is committed to this activity as an accompaniment educational measure in fruit and vegetable distribution programs in the different Spanish regions, as well as one to integrate into other school programs to promote health.

“Rescata tus ”

COVID-19. CAMPAIGN TO PROMOTE FRUITS AND VEGETABLES CONSUMPTION

The Association's motto in promoting the consumption of fruit and vegetables during the COVID-19 lockdown has been "Now more than ever and always '5 a Day'", a moment in which the food system has gone under test.

To help the population follow a healthy and safe diet during this difficult period, the Association generated content that advises on how to purchase and handle food, as well as inform on nutritional value for the normal functioning of the immune system (27) and promote healthy eating among the different risk groups during the lockdown (28). These contents have been communicated through social networks and direct mailings to its more than 20,000 contacts.

Likewise, and to reinforce the importance of the fruit and vegetable sector in the resilience of the food system in its production, distribution and retail areas, the Association launched a two-weeks-sponsorship television campaign with the "5 a Day" logo and the message: "The '5 a Day' Association advises the daily consumption of at least 5 servings between fruit and vegetables for a healthy diet. The scope of the campaign reached a total of 42.5 million people, equivalent to 237.7 GPR's (7.7 more than expected) (29).

AWARDS AND HONORS

The social marketing actions promoting the daily consumption of fruits and vegetables, within the framework of an active and healthy lifestyle, are the basis of the recognitions and awards that the "5 a Day" Association has garnered since its foundation:

- Special Health Festival Award, International Festival of Food and Health Advertising, for the promotion of a healthier diet (2019).
- Food Habits and Healthy Lifestyle Award, from the Association of Spanish Supermarket Chains (ACES), for the best institution or initiative (2019).
- First Prize AIAM5, from the XIV AIAM5 Congress, Tuxtla Gutiérrez, Mexico, for the "La Frutoteca" activity, a recognition that rewarded healthy actions among the child population (2017).
- ASAJA Murcia Extraordinary award, for Agri-food Promotion (2016).

- Award “Smile with your photo”, XII AIAM5 Congress, Bogotá, Colombia, for the work in the promotion of fruit and vegetables among the Spanish population (2016).
- Recognition from the Madrid Food Bank, for support and collaboration (2016 and 2017).
- Internet Star Awards, from Specialized Magazine FruitToday Euromagazine, for the best Twitter profile in the fruit and vegetable sector (2016).
- Recognition ADN-AGRO, CAJAMAR, for defending and promoting the consumption of fruits and vegetables to improve eating habits among the youngest (2016).
- Internet Star Award, from Specialized Magazine FruitToday Euromagazine, for the best Facebook profile in the fruit and vegetable sector (2015).
- Recognition from the Euroagro Fruits Fair for the work and involvement in promoting the consumption of fruit and vegetables (2014).
- “Barcelona Mediterránea” Award, from the Mediterranean Diet Foundation, for the campaign in raising awareness on the consumption of fruit and vegetables, shared with Mercabarna (2014).
- AEMP Bronze Award, from the Spanish Association of Promotional Marketing Agencies for the “Best use of promotional advertising” for the campaign “5 a Day is Vital” (2005).
- Food of Spain Award, from the Ministry of Agriculture, Fisheries and Food in the category of best agri-food promotion in Spanish territory, for the “5 a Day is Vital” campaign (2005).

CHALLENGES

The “5 a Day” Association’s mission is to contribute to the well-being of the Spanish society through a healthy diet, the development of local economies and taking care of the environment, through the production, marketing and consumption of fruits and vegetables. In order to achieve this challenge, its vision for the next five years is to become an entity in the fruit and vegetable value chain that brings together the productive and distribution sector, so that the greater social representation, the bigger its ability in influencing the development of

policies and efficient campaigns promoting fruit and vegetables consumption and improving health of the Spanish population.

One of the great challenges that the entity faces is the development of a strategic plan to reach its target groups with its health and sustainability messages in an effective and efficient way, systematically evaluating its actions in the promotion of health and aimed at endorsing and protecting the fruit and vegetable sector, so that its activities are cost efficient and have an impact on consumption, the reduction of non-communicable diseases risk factors and on the protection of the sector (30).

In the social and educational field, “5 a Day” will be a benchmark entity in improving the population’s food literacy, through nutritional education activities and improving the food environments at school, workplace and community settings. It will support entities aligned with its vision, focusing on reducing inequalities and inequity in access to healthy food and in raising awareness about the role of consumers in reducing food waste.

On the commercial front, “5 a Day” faces the challenge of involving the actors of the fruit and vegetable value chain, in order to increase their ability to influence sector policies and the impact on their social marketing campaigns, promotion of more sustainable, fair and profitable food systems as well as enhancing the corporate social responsibility of the associated companies, to align their health objectives with the Association’s vision.

Politically, the greatest challenge for the Association is to achieve sufficient social representation to foster relationships, agreements and alliances with the public sector in the area of agriculture, health, consumption and education, and other stakeholders aligned with its vision. In this area, special attention is paid to international level coordinating the Global Alliance for the Promotion of the Consumption of Fruits and Vegetables “5 a Day” AIAM5

In terms of health, “5 a Day” faces the challenge of evaluating its actions in a systematic way, so their impact on health indicators, such as the increase in the consumption of fruits and vegetables, the improvement of food environments and other health determinants, can be measured effectively. Scientific evidence and consumer protection will be the backbones of its statements, campaigns and activities, while its target groups will continue to be the school, work and community settings, as well as alliances and synergistic actions with the entities that bring together health professionals, consumers, other food sectors, NGOs, etc.

In terms of physical activity and healthy lifestyles, its mission will be to undertake specific actions related to the practice of physical activity and sports, such as in the participation and organization of events, training sports professionals about healthy eating and recognizing ambassadors who promote values such as respect, health, sportsmanship, solidarity, improvement and effort, as well as establishing relationships with sports entities.

SUMMARY

The efforts of these past 20 years have managed to position “5 a Day” as a social benchmark in Spain in promoting the fruit and vegetables consumption, due to its rigor in quality and scientifically based communication, its tools to train the population in healthy eating habits, and support the national fruit and vegetable sector.

Although the challenges are numerous, the Association is prepared to face them by reflecting on its achievements and its possibilities for improvement, especially in the evaluation of its actions, and establishing strategic lines that make it more cost-effective and increasing its influence capacity.

The coming 2021 offers unprecedented opportunities for the sector and the Association due to the celebration of the International Year of Fruits and Vegetables, and the XV AIAM5 International Congress to be held in Madrid.

FOR MORE INFORMATION:

<https://www.5aldia.org/>

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UNITED STATES OF AMERICA

ADDRESSING THE FRUIT AND VEGETABLE CONSUMPTION CRISIS IN THE UNITED STATES: EVOLVING FROM FACT-BASED MESSAGING TO AN BEHAVIOR-BASED MOVEMENT

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BACKGROUND

Declaring the Widespread and Chronic Fruit and Vegetable Consumption Crisis

As in other parts of the world, the United States faces a pervasive and persistent fruit and vegetable consumption crisis. We know that 9 out of 10 American adults have insufficient fruit and vegetable intake (1). In fact, fruits and vegetables comprise 2 out of 3 under-consumed food groups. Most alarming is that there has been no significant change in intake between the 2003-2004 and 2015-2016 measurement periods (2). This disturbing and continuing trend is what led the Produce for Better Health Foundation (PBH) to declare a chronic consumption crisis—raising awareness of and prompting action toward system-based yet realistic solutions.

PBH's sole mission is to help Americans live healthier and happier lives by eating and enjoying more fruits and vegetables—including fresh, frozen, canned, dried and 100% juice—every single day. This is accomplished by leveraging private industry and public sector resources and partnerships; activating consumer-facing influencers; and promoting fruits and vegetables directly to consumers. PBH serves as a respected liaison between the fruit and vegetable industry and the public health community, among others. PBH's research, programming, and communications are focused on addressing the fruit and vegetable consumption crisis.

Intervention Strategies and Results: Evolving Messaging on Fruit and Vegetable Recommendations

Transitioning from 5 A Day® to Fruits & Veggies—More Matters®

The 5 A Day® campaign was active in the United States until 2007 when it was replaced by Fruits & Veggies—More Matters®. Several US-based factors precipitated the decision to shift the campaign direction. First, dietary guidance had begun to indicate that some portions of the population would benefit from consumption greater than 5 servings, when fruit and vegetable recommendations were combined. Specifically, public health professionals were recommending 7-13 servings of fruits and vegetables, daily. Additionally, it was acknowledged that recommendations would likely continue to evolve and, therefore, there would be an ongoing need for a messaging campaign that would be adaptable and compelling in the face of evolving dietary guidance.



The Fruits & Veggies—More Matters® campaign resonated with consumers and stakeholders when it was tested in 2005 and continued to resonate over time (3, 4). (Table1) Formative research included interviews with representatives from government, nonprofit organizations and industry, as well as consumer feedback in the form of interviews, focus groups and an online survey. There was widespread agreement that a compelling emotional benefit was needed to motivate consumers to eat more produce and that the updated campaign hit the mark. For instance, when the Fruits & Veggies—More Matters® slogan and graphic were viewed together, the majority (62%) of consumers said it increased their interest in eating more fruits and vegetables (3).

TABLE 1.

FRUITS & VEGGIES—MORE MATTERS CAMPAIGN ATTRIBUTES OVER TIME

FRUITS & VEGGIES—MORE MATTERS CAMPAIGN	2016	2014	2012
Awareness	28%	24%	18%
Motivating	43%	39%	30%
Likely to Purchase Products with Logo	40%	49%	40%

Adapted from: Produce for Better Health Foundation. Primary Shoppers' Attitudes and Beliefs Related to Fruit & Vegetable Consumption, 2012-2016. Available at: <https://fruitsandveggies.org/>.

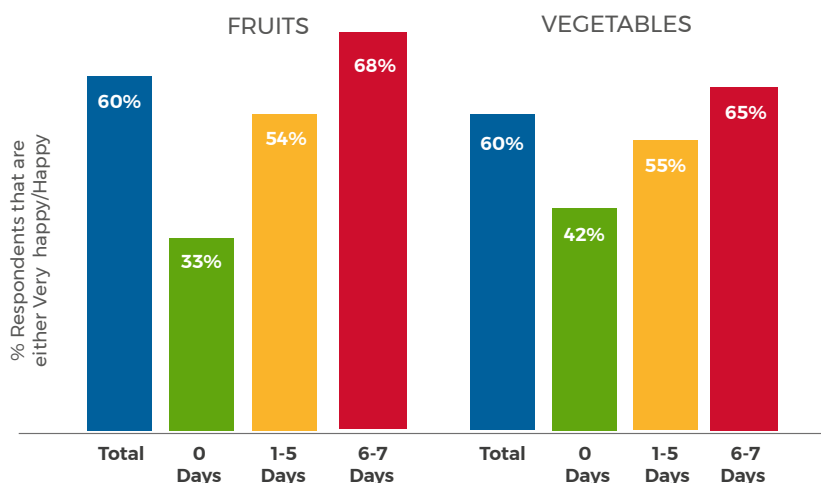
This rebranding to Fruits & Veggies—More Matters® proved advantageous because, in 2010, the *Dietary Guidelines for Americans*, and its associated Food Guidance System, shifted from using “serving” terminology to expressing recommendations in cup and ounce equivalents per day. This was based on consumer research by the United States Department of Agriculture that revealed Americans, overall, did not have a strong understanding of how much was in a “serving” of any food group.

Today, the current Food Guidance System used in the United States is *MyPlate*. *MyPlate* recommends that Americans aged 19 years and older, depending on calorie needs, consume 2-3 cups and 1 ½ to 2 cups per day of vegetables and fruits, respectively.(5,6) Yet, according to the latest National Health and Nutrition Examination Survey (NHANES) data, average intake of vegetables is just 1.6 cups daily and fruit 0.9 cups per day (2). As discussed earlier, this data reflects a chronic and persistent consumption crisis in American, and an understanding that more than just messaging is needed to make appreciable progress in increasing intake of fruits and vegetables.

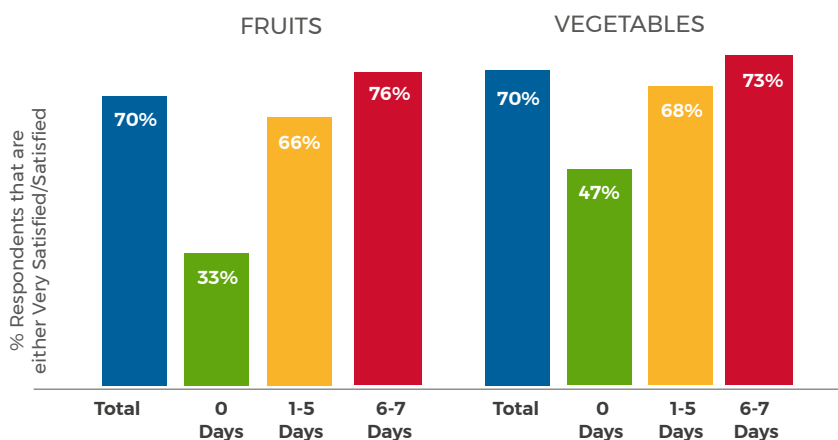
HARNESSING THE POWER OF EMOTION

In 2017, PBH conducted consumer research examining the relationship between intake of fruits and vegetables and markers of emotional well-being. This research was predicated on evolving international data that, beyond health benefits, fruit and vegetable intake may be predictive of improved happiness and life satisfaction. In fact, PBH’s study found a correlation between days per week in which fruits and vegetables were consumed and reported levels of short-term happiness, as well as long-term life satisfaction.

Those who consumed fruits and vegetables nearly every day of the week were significantly more likely to report being happy and satisfied with their life as a whole (7). (Figures 3 and 4).

FIGURE 3.

Source: Produce for Better Health Foundation. Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017. Available at: <https://fruitsandveggies.org/>.

FIGURE 4.

Source: Produce for Better Health Foundation. Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017. Available at: <https://fruitsandveggies.org/>.

Those who ate the most fruit and vegetables pointed to several immediate physical, emotional, and social benefits associated with doing so including pride in their choices, alleviation of physical illness, feeling good in their day-to-day activities, and confidence in their future health (7).

These findings led PBH to delve into behavioral research and the intention-action gap frequently seen in healthy eating behaviors. The public health community as well as many others have been extremely effective in educating American consumers that eating fruits and vegetables confers health benefits. While many express intentions to eat more fruits and vegetables, ultimately, many Americans do not follow through and increase fruit and vegetable intake over time.

EVOLVING FROM FACT-BASED MESSAGING TO A BEHAVIOR-BASED MOVEMENT

On the continuum from *knowledge* to action or doing, knowledge can increase awareness. Yet, there is no guarantee that increased knowledge will ultimately influence consumer behavior or actions. *Feelings* can influence behavior. In addition, interventions that place primary focus on affecting consumer actions or what they do (vs. education only), are more likely to show successful behavior change. This concept was demonstrated by a meta-analysis of close to 300 “nudge” findings that showed an increase in effect sizes as the focus shifts from cognition, to affect, to behavior (8).

Behavioral science has been transformational in how PBH now approaches its mission to solve the fruit and vegetable consumption crisis—specifically applying the “PBH KNOW-FEEL-DO Behavioral Framework” to its research, education and communications platforms. With high consumer understanding of fruit and vegetable health benefits, PBH is focused on not only providing fact-based knowledge but also *inspiring emotional connectivity and actionable doing* by concentrating on creating enjoyment, excitement and craving for fruits and vegetables (feeling), as well as increasing exposure, routine and ease of consumption (doing).

Informed by food and nutrition as well as behavioral and consumer research, PBH, in partnership with its members and supporters, decided to evolve the Fruits and Veggies—More Matters® campaign, given the following considerations:

- 1. Eating at least five servings of fruits and vegetables every day can drastically reduce the risk of cardiovascular disease, among many other health conditions.** A recent, PBH-commissioned comprehensive review

demonstrates that fruits and vegetables have unique, synergistic health-promoting properties that not only deliver basic nutrient needs, but also improve life expectancy and quality. The results demonstrate dietary guidance and consumer communications should continue to call for people to enjoy at least five servings of fruits and vegetables each day – including fresh, frozen, canned, dried and 100% juice – to improve health and reduce chronic disease risk (9).

- 2. Objective recommendations and messaging based on health benefits have not been enough to increase fruit and vegetable intake over time.** American consumers know that fruits and vegetables are healthy and have received the message from multiple sources to eat more—yet consumption has remained flat and significantly less than the recommended amounts.
- 3. Behavior is a stronger predictor of health outcomes than are medical and clinical care.** Interventions focused on doing are most effective, followed by feeling, and, lastly, knowing (8).
- 4. Despite a global rise in attention to plant-based/plant-forward eating, fruits and vegetables remain the plants that Americans do not eat enough of.** Meat and dairy alternatives dominate today's marketplace, and specific fruits and vegetables have been branded “superfoods”; yet we have not yet seen a palpable change resulting in overall increased intake.
- 5. Today's Millennial and Gen Z consumers differ from Boomers and Gen X we have messaged to in the past and may provide a road map for success.**

BUILDING THE HAVE A PLANT® CONSUMER MOVEMENT

The Have A Plant® Consumer Movement launched in 2019. (Figures 5 and 6) It represents PBH's commitment to transform how people think about and enjoy fruits and vegetables, by tapping into consumers' emotional connections to food. The Have A Plant® Consumer Movement replaces the Fruits & Veggies-More Matters® public education program as a behavior-based approach to positively impact fruit and vegetable behaviors, particularly among Millennials and Gen Z consumers. Together, these groups represent the largest demographic in the United States and are the current and future parents of the next generation of fruit and vegetable eaters.



have a
plant®
fruitsandveggies.org



Millennials and Gen Z consumers are distinctive—they are growing up in a new digital world that directly impacts food purchasing decisions, creating the opportunity for more efficient and effective communication on the why and the how of increased fruit and vegetable consumption. They have an inherent interest in the content of their food and understand that what they eat impacts their physical health and how they feel. However, they struggle with competing information sources, and the challenges of maintaining healthy eating patterns in their increasingly fragmented, time-pressured daily lives.

The Have A Plant® Movement is rooted in an intensive consumer research journey to identify effective strategies that could help motivate Americans to meet daily recommendations for fruits and vegetables and reverse lack-luster consumption trends. This multi-faceted research effort included interviews with 23 produce industry stakeholders; a deep-dive assessment of more than 100 consumer behavior studies; and consumer and influencer research, including an analysis of 1.2 million social posts. The findings were compelling:

- Consumers are motivated by the immediate emotional satisfaction of eating fruits and vegetables, more so than longer term physical benefits. People report feeling happier and a greater sense of overall satisfaction in life when they eat these plant foods more often, which can often be more motivating as a driver than an emphasis on disease risk reduction.
- Millennials and Gen Z categorize fruits and vegetables, each, very differently – and they want resources that speak to this differentiation. For many, fruit means sweet and happiness, while vegetables convey savory and smart, for example.
- Social content analytics identified a current of advocacy naturally flows within digitally connected Millennials and Gen Z, which can offer a compelling opportunity for produce promoters to tap into, to boost fruit and vegetable consumption.
- Since it launched in April 2019, the Have A Plant® Movement has reached hundreds of millions of consumers in digital and social media alone.

FRUIT AND VEGETABLE CONSUMPTION BARRIERS AND OPPORTUNITIES

The global coronavirus pandemic has laid bare one major truth regarding the United States food system—in order to meet the food and nutrition security needs of the entire US population in an equitable manner, it needs to be more flexible, accessible and effective.



COVID-19 illuminates two major public health crises occurring simultaneously around the world—the somewhat short-term threat of viral illness, and also the effect of chronic, diet-related health conditions making individuals more susceptible to complications and mortality over both the short- and long-term. In retrospect, the coronavirus may likely be seen as a serious, short-term health event. Conversely, consumption of fruits and vegetables has been, and remains to be, an ongoing crisis.

Therefore, we must identify and address barriers, needs and opportunities both at a systems-based, societal or macro level, as well as an individual level.

Individual Barriers

On an individual level, fruit and vegetable consumption competes directly with other health priorities. Additionally, intake must be achieved in the context of eating and family environments. The top barriers cited by primary shoppers in 2016 for not eating more fruits and vegetables included differing preferences among various family members, cost, availability in restaurants, lack of ideas regarding ways/skills to prepare, and perishability/food waste (4).

System-based Barriers

COVID-19 has magnified existing issues within the United States food system. As with other countries, the US has a high prevalence of overweight and obesity existing simultaneously with food insecurity, undernutrition and, in many cases, lack of access to fruits and vegetables. This is why it is of the utmost importance to ensure that individuals know that fruits and vegetables can be healthful when consumed in any form (fresh, canned, frozen, dried and 100% juice) to provide flexible solutions in preference, price point, perishability and access.

Individual Needs and Opportunities

The resources that consumers report being most useful include having fast, simple recipe and serving suggestions, coupons, cost-saving tips, more locally available produce as well as learning cooking techniques and knowing what is in season (4).

Additionally, research suggests that with increased frequency of consumption, comes greater fruit and vegetable intake overall (7). PBH's 2017 research study shows that as days per week intake of fruits and vegetables goes up, so do amounts per day. This is consistent with habit-building from behavioral research. On an individual and family-level, there is an opportunity to empower and inspire new and sustained fruit and vegetable consumption habits.

System-based Needs and Opportunities

The following excerpt from the 2015-2020 Dietary Guidelines for Americans succinctly and convincingly captures the evidence and road map: "As shown in the Social-Ecological Model, a multitude of choices, messages, individual resources and other factors affect the food and physical activity choices an individual makes, and these decisions are rarely made in isolation...Consistent evidence shows that implementing multiple changes at various levels of the Social-Ecological Model is effective in improving eating and physical activity behaviors." To make a difference in consumption, multiple sectors must be at the table—including novel stakeholders not traditionally associated with food, nutrition, public health or behavior (10).

CONCLUSION

Our best chance at increasing intake of fruits and vegetables among consumers is two-fold: 1) multi-sector, multi-level collaboration; and 2) using proven behavioral principles and techniques to positively impact consumption.

To that end, PBH recently announced the acceleration of its multi-year, cross-sector Lead The Change Movement, unifying produce industry stakeholders and food system thought leaders to close the consumption gap, while offering innovative, behavior-based solutions that help people enjoy more fruits and vegetables for happier, healthier lives (11).

In addition to involving all sectors of the fruit and vegetable industry, among others, Lead The Change includes research, communications, and thought leadership platforms to ensure the Movement speaks with One Purpose, One Voice, and One Call-to-Action, including:

- I One Purpose:** PBH is leading best-in-class fruit and vegetable consumption research, also known as *PBH's State of the Plate Research on America's Consumption of Fruits and Vegetables* (12), as well as custom consumer behavioral studies, to identify and elevate new fruit and vegetable consumption behaviors as a national priority. The research will support the movement's overarching purpose of getting to the root of tackling the produce consumption crisis, informed by PBH's KNOW-FEEL-DO behavioral framework.
- I One Voice:** PBH has begun convening a multi-sector coalition of influential stakeholders, thought leaders and academic experts as an innovation incubator-type forum to identify ideas and inspire solutions as well as activate the KNOW-FEEL-DO behavioral framework to help consumers act on fruit and vegetable consumption intentions. PBH will continue to leverage its Have A Plant® Movement, its extensive digital ecosystem and Fruit and Vegetable Ambassadors in Action (FVAA) to help consumers put these behaviors into action.
- I One Call-to-Action:** PBH, in partnership with coalition members, will convene multi-sector food system thought leaders at the first-ever national consumption summit, to magnify the fruit and vegetable consumption crisis; build sector-based solutions; and generate a unified call-to-action for lasting behavior change. The summit will take place in 2022, to showcase research insights and coalition member efforts.

The Lead The Change Movement in the United States also includes a comprehensive communications plan, to widely disseminate research findings and implications via traditional/mainstream media, trade press, PBH's extensive consumer- and influencer-targeted social platforms, professional meetings and other thought leadership opportunities. Finally, the campaign will include continuous evaluation, to ensure efforts are effectively driving improved fruit and vegetable consumption behaviors, with PBH and coalition members developing a framework for ongoing measurement and reporting.

SUMMARY

In the United States, and globally, we face a chronic fruit and vegetable consumption crisis. The health benefits of consuming fruits and vegetables are uncontested, and their enhancing effects on emotional well-being are promising. Still, projected health and well-being benefits will continue to be unrealized if long-standing underconsumption trends persist. The Produce for Better Health Foundation (PBH) has evolved its marketing and outreach strategy over time from fact-based campaigns such as 5 A Day® and Fruits & Veggies—More Matters® to now, the behavior-based Have A Plant® Movement. Have A Plant® is designed to harness the power of consumer emotion and behavioral science to decisively increase new fruit and vegetable behaviors and positively impact consumption.

Increasing intake of fruits and vegetables among consumers will not only require behavioral-based principles and techniques but also multi-sector, multi-level collaboration and commitment to establish long-term habits. To elevate new fruit and vegetable consumption behaviors as a collective and national priority, PBH recently announced the acceleration of its multi-year, cross-sector Lead The Change Movement, unifying produce industry stakeholders and food system thought leaders to close the consumption gap, while offering innovative, behavior-based solutions that help people enjoy more fruits and vegetables for happier, healthier lives.

FOR MORE INFORMATION:

<https://fruitsandveggies.org/>

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FRANCE

APRIFEL ACTIONS IN FRANCE AND GLOBALLY

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BACKGROUND

Aprifel is an association established in 1981 by Interfel, the organisational interbranch association for fresh fruit and vegetables in France, to nurture a network of experts and a source of reliable information within the inter-branch organisation, both nationally and internationally recognised.

THE BOARDS

Aprifel comprises active members originating from representative professional organisations in the fresh fruit and vegetable sector. These active members are the 15 professional organisations:

- FNPF – National Federation of Fruit Producers.
- LEGUMES de France – Vegetable producers in France.
- FELCOOP – French Federation of Fruit, Vegetable and Horticultural Cooperatives.
- GEFel – Represents AOPs (Association of Producer Organisations).

- CR – Rural coordination.
- Confédération Paysanne - French Farm Workers' Confederation.
- ANEEFEL – National Association of Shippers and Exporters of Fruit and Vegetables.
- UNCGFL – National Union of Fruit and Vegetable Wholesale Trade.
- Saveurs commerce – National Federation of Unions of Fruit, Vegetables and Early Fruit Retailers.
- FCD – Federation of Commerce and Distribution Enterprises.
- FCA - Associated Trade Federation.
- RESTAU'CO – Directly Managed Contract Catering Network.
- SNRC – National Syndicate of Corporate Caterers.
- CSIF – French association of fresh fruit and vegetable importers.
- SNIFL – National Syndicate of Fruit and Vegetable Importers and Exporters of Fruit & Vegetables.

All these professional organisations are members of Aprifel's Executive board.

Aprifel also facilitates and coordinates independent boards which issue verdicts or give a consensus on scientific information which is then disseminated to the general public and professionals:

- The Scientific board, comprising 7 independent scientific experts.
- The Consumers board, comprising 11 national approved consumer associations.

Aprifel strives to ensure the dissemination of scientific data concerning fruit and vegetables for healthcare professionals in the fresh fruit and vegetable sector, and consumer associations/ general audience. It acts as an interface between scientists, civil society and fruit and vegetable professionals.

Aprifel is tasked with the following:

- Developing research initiatives or scientific studies, particularly in fields such as nutrition, public health and food safety.
- Developing and disseminating information resulting from its own work or that of third parties.
- Developing and disseminating pedagogical training or information materials, bringing together scientific experts, representatives of civil society and consumers to promote efforts to disseminate and exchange information with all international organisations involved in boosting awareness of fruit and vegetables.
- Developing an international network that brings together stakeholders in the fruit and vegetable sector.
- Organising and coordinating national and international symposiums and conferences.



DAILY ACTIONS: SCIENTIFIC REVIEWS AND MONITORING

Daily, Aprifel works alongside scientists and physicians from all around the world to share new information and knowledge on F&V in its two scientific reviews: The Global F&V Newsletter (GFVN) (since 2006) and its French version Equation Nutrition (since 2000), which count respectively more than 13,000 and 4,000 subscribers. They are both destined essentially to health professionals, but also industry professionals, students or key players in the nutrition sector worldwide. The Global F&V Newsletter published in French and English and translated into Spanish as well is published throughout more than 30 countries thanks to AIAM5, the Global Alliance for the promotion of fruit and vegetable consumption “5 a Day”.

Thanks to these tools, for 20 years, Aprifel has been offering researchers from all over the world the opportunity to publish their work outside the traditional channels reserved for the scientific community and enables them to extend the impact of their publications. The realization of these two reviews is based on the constitution of a network of international experts and a permanent scientific watch on F&V & Health. This scientific monitoring aims to:

- Define the themes of the scientific reviews.
- Find the researchers most involved in the study of fruit and vegetables and thus build up a network of international contacts.
- Feed the “Nutrifel” database on scientific work on the health benefits of fruit and vegetables, food marketing, sociology, food economics, fruit and vegetable consumption, public health policies, obesity and other diseases, promotion of fruit and vegetables... This database is updated all the time and represents a reference resource for anyone interested in the fruit and vegetables subject with more than 15,000 abstracts from scientific articles with more than 2,000 added these last 2 years.



FRUIT AND VEGETABLE CONSUMPTION IN FRANCE

According to the INCA 3 study, the consumption of fruit and vegetables by adults in France is on average 374 g/day (1). The recently published health study on the environment, biomonitoring, physical activity and nutrition (Esteban 2014-2016) conducted a survey of a sample of 794 children aged 6 to 17 and 2,472 adults aged 18 to 74 in France between April 2014 and March 2016 (questionnaire & food survey, health examination with biological samples and assays).

Between 2006 and 2015, there were no major changes in food consumption; however, the results showed that certain foods and nutrients remained public health challenges. Fiber remains poorly consumed with only 13% of adults and 2% of children reaching the recommended intake level (at least 25 g per day) (2). Concerning carotenoids, mainly provided by fruit and vegetables, since 2006, a drop in consumption of 5 servings of fruit and vegetables per day has been noted by the food survey among men aged 55-74 and women aged 18-39. Still according to the Esteban study, 42% of adults and 23% of children met the recommendations for fruit and vegetable consumption (3). On the contrary, almost 37% of adults are “small consumers”, their consumption being less than 3.5 servings of fruit and vegetables per day (280 g/ day).

Furthermore, Credoc (4) survey conducted between 2015 and 2016 with 1,500 households' representative of the population of households resident in mainland France showed that only 6% of children from 3 to 17 years old complied with the recommendation. The survey also highlighted the fact that the consumption of fruit and vegetables continues to decrease with the arrival of younger generations. In fact, the average daily consumption of people born between 1967 and 1976 was 145 g of vegetables and 100 g of fruit at the age of 25. At the same age, the generation of their children, born between 1987 and 1996, consumes about 50 g of vegetables and 45 g of fruit per day. This represents three times less vegetables and half as much fruit per day in their diet. This trend is expected to continue and even increase in the years to come. A prospective study on the eating habits of tomorrow (5) underlined that the market share for household expenditure on vegetables is likely to fall sharply by 2025 for all age groups except for those over 65. Among this population, a sharp increase is expected for those aged 65-74, while a light increase is expected for those aged 75-84 and over 84. Only 25-34-year-olds would not see their market share decline, with a stagnation around 11% (Figure 5). The phenomenon would be exactly the same as for the market share for household spending on fruit by 2025, with the notable difference that the share of 25-34-year-olds would, this time, also be in sharp decline (Figure 6).

FIGURE 5.

MARKET SHARE ACCORDING TO AGE GROUPS FOR HOUSEHOLD EXPENDITURE ON VEGETABLES, INSEE, "FAMILY BUDGET" SURVEY, CREDOC FARM, 2017

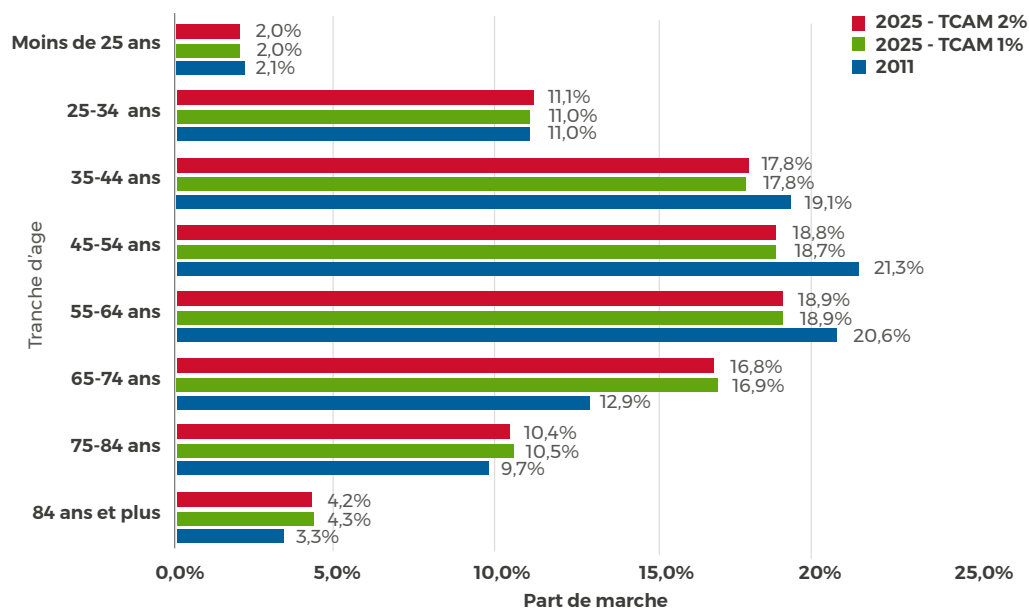
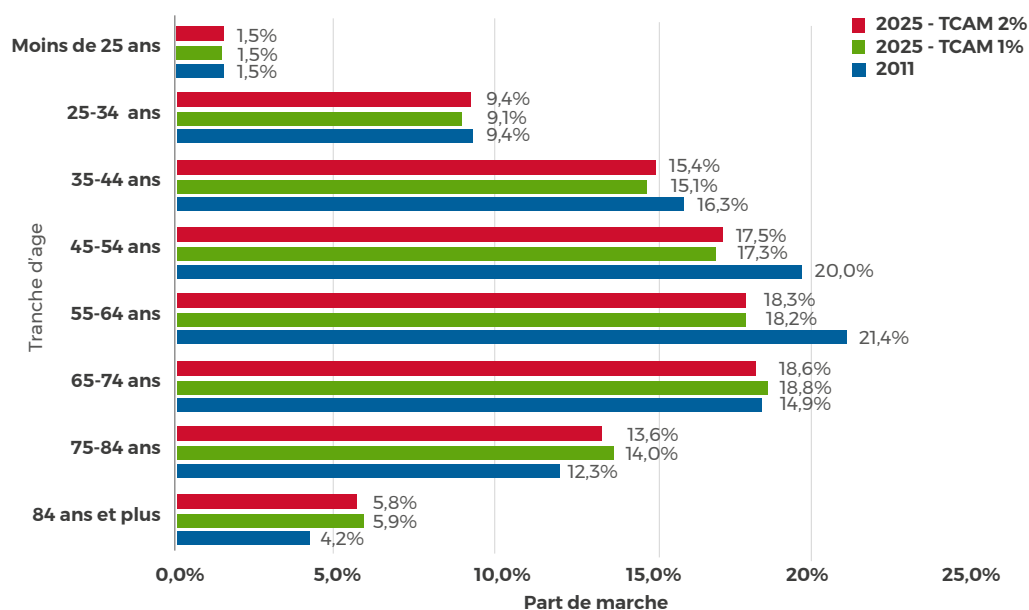


FIGURE 6

MARKET SHARE ACCORDING TO AGE GROUPS FOR HOUSEHOLD EXPENDITURE ON FRUIT, INSEE, "FAMILY BUDGET" SURVEY, CREDOC OPERATION, 2017



These results once again show the need to develop specific actions to encourage the consumption of fruit and vegetables largely.

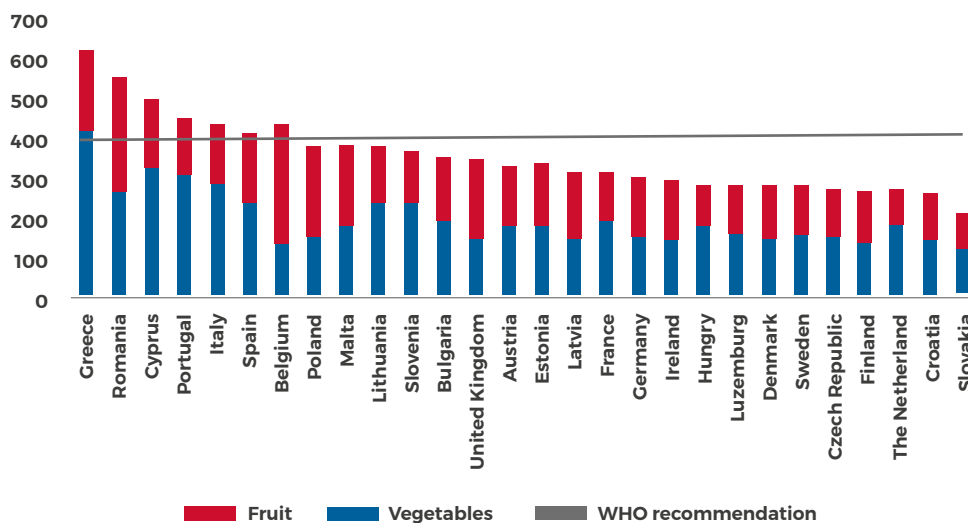
GENERAL PUBLIC ACTIONS EUROPEAN PROGRAMS

THE FOLLOW ME TO BE HEALTHY WITH EUROPE CAMPAIGN

In addition to its daily actions, Aprifel has been taking part and coordinating a few European programs. In 2019, Aprifel launched with Freshfel Europe the Follow me to be Healthy with Europe campaign.

According to the World Health Organization (WHO), we should eat at least 400g of fruit and vegetables per day. But the truth is that fruit and vegetable consumption levels across most of the EU Member States remain well below this target consumption level. Only 14% of the European population reaches this recommendation.

EU CONSUMPTION FIGURES 2017 (G/CAP/DAY)



This low fruit and vegetable consumption is particularly noticeable among 18-30-year olds, who are the target of this campaign. In fact, European young adults are barely aware of the importance of consuming fruit and vegetables as part of a healthy diet. Increasing this awareness is the first step in changing dietary habits and main objective of this campaign. The overarching goals of the

campaign are to translate this awareness into concrete action and to increase consumption of fruit and vegetables among 18-30-year-old Europeans.

To take action, we chose an online campaign as Millennials are hyper-connected. Most of the communication has been digital with an online outreach with the **#400gChallenge** via:

- A YouTube channel with monthly videos (almost 1 million views). Each video has challenged the community to eat more fruit and vegetables.
- Posts on Instagram, Twitter, and Facebook to disseminate creative and inspiring infographics, tips, and videos (5,000 followers).
- A collaboration with 20 European influencers to share content across borders.

All content has been developed in English and French, with key messages translated into German, Spanish, Italian, and Polish to capture a wider European target audience. The campaign website hosts and gathers all content. To add a face to face dimension to this digital content, we took part into many events in 2019-2020 where we could meet our audience in person:

- **Eurockéennes** (July 4th to 7th 2019 in Belfort): official launch of the campaign from our stand during this big festival with international artists and great audience: 40,000 people per day for 4 days. We distributed almost 1 ton of fruit and vegetables, flyers, carrot seeds, aromatised water.
- **Paris Manga Sci-Fi show** (October 5-6th 2019 in Paris).
- **Student Fair in Brussels** (February 15th 2020).

Due to the COVID-19, the events planned in 2020 will be postponed to 2021.

This three-year program will end in December 2021.



EUROPEAN PROGRAM FRUIT & VEG 4 HEALTH

If the Fruit & Veg 4 Health program aims directly and mostly to health professionals, the general public and patients remain the final target. 2 out of 3 patients say they are waiting for support and advice from their general practitioner (GP). In order to make the general public aware of the importance of a healthy diet, and to reinforce the actions carried out for health professionals, the Fruit and Veg 4 Health program is also aimed directly at patients.

To carry out these actions and reach our target, Aprifel took part into many health and sports-related events with information stands such as La Parisienne (September 8th 2019 in Paris): a race for women only or the Diabetes prevention week (2018) in partnership with the French Diabetes Association.

In addition to a presence during public events, Aprifel also created patient information materials like leaflets, posters and videos to explain the benefits of eating fruit and vegetables and to provide concrete advice for daily life. Each year, these materials are distributed in nearly 10,500 health establishments like waiting rooms of doctors' surgeries, nursing homes and family planning centres. These materials offer an approach by age group. In 2018, the importance of consuming fruit and vegetables throughout life was highlighted. In 2019, the focus was on the pre-conception period and pregnancy. In total, nearly 600,000 patients were sensitized in two years.

In order to increase the distribution of the program's information materials for the general public, the leaflet "Eating fruit and vegetables - why & how?" was inserted in the December issue of four consumer magazines: Top Santé, Femme Actuelle, Prima and Santé Magazine. A total of 1.3 million leaflets were distributed through this channel.

5 A DAY PROGRAM

In May 2020, Aprifel partnered with other European associations (BordBia – the Irish Food Board, Dansk Gartneri – the Danish Horticulture Association, the Association of Polish F&V Distributors and Freshfel Europe) to submit a new European program starting 2021 in the framework of the International Year of Fruit and Vegetables. This multi-country program objective is to increase after three years the consumption of fresh fruit and vegetables for households from 2% to 3%.

According to the market analysis and the actions implemented in France, Ireland, Denmark and Poland, the consortium will challenge the alarming under-consumption of fruit and vegetables among the general audience. As the consumption of fruit and vegetables is directly linked to healthy eating habits and a solution to major health issues over the European Union, increasing the consumption of fruit and vegetables should directly benefit the health of the inhabitants of the four countries of the program.

Actions in the program will be numerous and might change according to each country while keeping a united graphic charter and spirit: events, social media, point-of-sales actions, recipes, etc...

A SHORT TV PROGRAM AND YOUTUBE VIDEOS

Since 2017, Aprifel has been sponsoring a French TV program called E=M6 spécial Nutrition. This TV program has been created to answer questions about nutrition like:

- What is a healthy diet? A portion?
- How can we achieve at least 5 fruits and vegetables a day?
- How are fruit and vegetables produced?
- How to avoid food waste?



The answer for each question is provided by a pair of scientific expert and a fruit and vegetable professional.

French people have many questions about their diet. In order to provide them with answers, the M6 group has been offering a version of the popular science program E=M6, dedicated to nutrition. The channel has asked Aprifel to join this program as a sponsor and a digital version Graines de Savoir has been launched on YouTube where all content is available. 40 one-minute episodes have been produced in 2017-2018. Aprifel provided the sources and data needed for each episode. The scientific and consumers board took also a part in this action.

The results:

- 10 million French people reached each year with the TV program.
- More than 2 million people watching the most watched episode about “5 fruit and vegetables a day, what does it mean exactly?”.
- 14 million views in total for the YouTube page Graines de Savoir.
- 14,000 followers on the Facebook page.



WORKS OF THE CONSUMERS' BOARD

Since its creation in 2009, the Aprifel Consumers' board has been a place for dialogue, bringing together consumers, scientists and fruit and vegetable professionals. This structure allows for informed dialogue and to shed light on subjects that concern civil society. In this context, Aprifel regularly invites scientists and industry experts to speak at its meetings to answer questions from associations. Once a year, a morning open to all is organized and designed as a mini-colloquium. Since 2015, various topics were discussed:

- Effects of climate change on the F&V sector (2019).
- Analyse of the cycle of life of fresh F&V (2018).
- A day dedicated to the taste and nutritional quality of F&V (2018).
- How important will be F&V in our future diet? (2017).
- Production methods of F&V (2015 & 2016).
- F&V at the heart of our food culture (2016).
- Food waste (2015).

WEBSITE & SOCIAL MEDIA

Aprifel invested social networks in 2017. New content is shared every week on Facebook and Twitter. Aprifel shares its actions and publications as part of the news (World/ European days, international congresses, release of new materials, etc...) and relays "reliable" and relevant external content from, for example, the EFSA (6) or the FAO or *Santé Publique France*. The goal is to multiply the formats of content (posts, infographics, key figures, videos via the Graines de Savoir videos on YouTube, etc.), to be in direct contact with its audiences and to disseminate information as widely as possible.

In order to make its content even more accessible, the overhaul of the Aprifel website was initiated at the end of 2018 and should be completed in the course of 2020. The updated nutritional sheets on fruit and vegetables will be available amongst many other content and news on nutrition, health and fruit and vegetables.

INSTITUTIONAL CATERING

In France, 7.3 billion meals are served each year in collective catering. A dedicated body has been set up by the French Government since 2019 - the National Council for Institutional Catering (CNRC) to facilitate the implementation of actions provided for in the National Food and Nutrition Program (PNAN). Aprifel participates in the CNRC's nutrition working group.

The initial work has involved experimenting with a vegetarian meal once a week in school catering. Other topics will be submitted, like recommendations dedicated to the early childhood sector and the elderly.



ACTIONS TOWARDS HEALTH & F&V PROFESSIONALS

FRUIT & VEG 4 HEALTH

Co-financed by the European Union for a period of three years, the Fruit and Veg 4 Health program is in line with the European Commission's objectives to encourage healthy eating habits and particularly the consumption of fruit and vegetables. Its ambition is to support the action of health professionals in the field of nutritional advice by giving them access to current scientific consensus and practical tools so that they can engage in discussion with their patients.

In order to equip doctors with the tools they need to talk to patients, this information program was launched in 2018. Health professionals, and mainly general practitioners, gynaecologists and paediatricians, are reference points for their patients and their intervention can help prevent chronic diseases. Through their advice, they can help their patients make their lifestyle and diet healthier.

This program has been a real success; that is why a sequel of the Fruit & Veg 4 Health program was submitted to the European Commission in May 2020 for another program 2021-2023.

EGEA 2018

Although it is very effective, nutritional advice is still difficult for doctors to give. Both internationally and in Europe, the main obstacles cited are:

- Lack of time and knowledge/skills on nutrition.
- Lack of visible short-term effectiveness.
- A non-facilitating environment (family, advertising).

On November 7th, 2018, the 8th edition of the EGEA conference took place in Lyon dedicated to "Nutrition and Health: from science to practice". The objective was to provide doctors with a real knowledge on nutrition and prevention, but also on the levers that allow them to engage in discussion with their patients on this subject. Co-chaired by Professors Elio Riboli (Imperial College) and Martine Laville (University of Lyon & Hospices Civils de Lyon), this event was accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) and nationally by the College of general practice of University of Lyon 1.

This conference was the highlight of the first year of the Fruit and Veg 4 Health program. It brought together more than 300 participants - international scientists, health professionals, policy makers, civil society representatives and fruit and vegetable professionals - from around 30 countries. During 3 days, more than 50 international experts presented the latest advances in nutrition and health. Extensive exchange of views made it possible to draw up concrete, scientifically-based recommendations, in particular in order to:

- Encourage the consumption of fruit and vegetables, from a very young age.
- Strengthen cooperation between doctors and dieticians.
- Make schools a place of "eating well".
- Improve food systems, both for humans and the planet.

FACT SHEETS FOR HEALTH PROFESSIONALS

Following the EGEA 2018 conference, a lot of actions were launched in order to answer doctors' expectation in terms of information and patients' questions. Physicians were waiting for simple and practical tools to facilitate the patient-doctor dialogue. That's why, Aprifel decided to elaborate fact sheets with short, factual messages, in order to ultimately improve the population's eating habits.

These briefing papers are based on scientific consensus on nutrition and chronic disease prevention. They are developed with the co-chairs of the EGEA 2018 conference, the University College of General Medicine of the University of Lyon 1 and European associations of general practitioners, family doctors (7) and paediatricians (8).

Seven fact sheets were produced in 2019. They have been delivered at doctors' surgeries from May 15th to June 30th 2019. A total of fourteen will be developed by the end of 2020. They will be distributed by carrying them to doctors' surgeries, thanks to Aprifel's presence on stands at congresses and by inserting them in congress cases at events aimed at healthcare professionals. Moreover, they are available to download on the www.Egeaconference.com website and have already been downloaded more than 10,000 times. Thanks to these sheets, more than 20,000 doctors have been reached on many different topics like "The key role of health professionals for healthy eating" or "Fruits & Vegetables and Type 2 Diabetes Prevention".

THESIS COMMITTEE

In addition to these actions of the Fruit & Veg 4 Health program, Aprifel carries on its partnership with the College of general practice of University of Lyon 1, especially the Thesis committee – *Cerce des thèses* – 5 interns in general practice defended their thesis which focus on nutrition in 2018 & 2019.

This collaboration with the College of general practice of the University of Lyon 1 continues: three new thesis focusing on nutrition were initiated in 2019 and are in progress.

NUTRITIONAL SHEETS

After a two-year partnership with ANSES (9) and a nutritional analysis of more than 80 fruit and vegetables in 2017-2018, Aprifel will release on its new website later this year updated nutritional sheets on fruit and vegetables. One hundred and twenty sheets detailing the nutritional analysis of most fruit and vegetables, from apricot to garlic or red pepper, including the most common cooking methods to be as complete as possible.

In addition to all the actions in the Fruit & Veg 4 Health program, this tool will allow both health professionals and the general public to familiarize with this specific content.

EVENTS

Aprifel took also part into events dedicated to health professionals (mainly GPs, paediatricians and gynaecologists) to share materials of the campaign like a Paediatrics or a Gynaecology Congress.

A Restitution day of the Fruit and Veg 4 Health program is planned for November 5th 2020 in Brussels, Belgium.

NATIONAL AND INTERNATIONAL EVENTS

Aprifel regularly participates into national or international events destined to health professionals or nutrition experts. Usually, with an information stand to give out materials like leaflets on cardiovascular diseases or the benefits on health of the consumption of fruit and vegetables or share European programs messages. This past year, Aprifel participated in some events like **ECOG** (10) –

November 13th to 16th 2019 in Katowice, Poland and **AMFB** (11) – December 2019 in Bucharest, Rumania– for which Aprifel was not on site but sent 1,000 fact sheets for doctors in the framework of the partnership with WONCA (7).

In addition to being present at events, Aprifel also organized international conferences these last years like EGEA or the Aprifel Meeting 2017 – November 17th 2017 in Paris at the Health Ministry about the benefits of eating at least 5 fruit and vegetables a day.

EGEA – FROM SCIENCE TO ACTION

In 2003, Aprifel launched Egea, a series of international scientific symposia to promote the health benefits of a diet rich in fruits and vegetables. The aim is to bring together leading experts to establish a solid scientific basis and build consensus to increase the consumption of fruit and vegetables for better health and well-being.

As a first step, Egea has mobilised the international scientific community to highlight the place of fruit and vegetables in a Mediterranean-type diet whose health benefits are recognised.

EGEA 2003 - HEALTH BENEFITS OF DIET - CVD & CANCERS

In Heraklion (Crete), the Egea 2003 consensus defined:

- The main characteristics of the traditional Mediterranean diet, in which the consumption of fruit and vegetables plays an important role.
- Recommendations in terms of agricultural policy so that the nutrition and health aspects can be associated with it.

EGEA 2004 - Health benefits of diet - Obesity and Type 2 Diabetes

In Perpignan, the Egea 2004 consensus made it possible to:

- Underline the primordial role of fruit and vegetable consumption from early childhood for the prevention of obesity.
- Define specific nutritional recommendations.
- Reiterate the need for a comprehensive and multisector nutrition policy.

EGEA 2005 - HEALTH BENEFITS OF FOOD - FROM SCIENCE TO PREVENTION ACTIONS

In Rome, the Egea 2005 consensus showed that:

- I Increased consumption of F&V, decreases energy density and increases nutritional density. This is an effective way to fight the scourge of obesity.
- I Only a strong political will make it possible to make progress in the fight against obesity and other so-called "decivilization".

EGEA 2007 - ROLE OF F&L IN THE FIGHT AGAINST OBESITY

In Brussels, the Egea 2007 conference was privileged to be supported and hosted by the European Commission, under the aegis of the WHO.

In view of the scientific data validating the need to consume more F&V, a consensus has been established defining the priority measures for the promotion of fresh fruit and vegetables:

- I Promote the accessibility and availability of fruit and vegetables in schools.
- I Improve information on the health benefits of fruit and vegetables and increase advertising for F&V.
- I Reduce social inequalities in fruit and vegetable consumption.

EGEA 2008 - 1ST INTERNATIONAL F&V SUMMIT - UNESCO - NUTRITION/MARKETING/ECONOMY

In Paris, in May 2008, Egea, in the framework of the first International F&V Summit, brought together experts from all over the world on topics as diverse as nutrition, marketing and the economics of the F&V sector with the support of global (WHO, FAO, IFAVA), European (European Directorate General for Agriculture) and national (Ministry of Agriculture, DGAL, Viniflhor) organisations.

The participants unanimously adopted the following conclusions:

- I Improving the quality of food is one of the most urgent public health priorities worldwide.
- I Improving the quality of food necessarily involves increasing the consumption of fruit and vegetables.

- Common strategies for Agriculture and Health should be implemented to promote access to F&V for all types of population. Programmes and interventions should target schools, disadvantaged populations, workplaces, communities and the media.

EGEA has played an active role in shaping European policy, notably in the implementation of the School Fruit and Vegetable Scheme (SFVS).

EGEA 2010 - HEALTH AND SOCIO-ECONOMIC BENEFITS OF A BALANCED DIET: THE ROLE OF F&V

For the second time, the Egea conference had the privilege of being supported and hosted by the European Commission in Brussels. Thanks to the contribution of multidisciplinary international scientific speakers, European policy makers (DG Sanco, DG Agri) and WHO representatives, the following conclusions were adopted:

- Propose financial support to low-income populations in Europe to increase their consumption of F&V.
- Promote and strengthen coordination between sectors - health, agriculture, social environment - for more impactful policy action.
- Facilitate the effectiveness of the European School Fruit Scheme by improving accompanying measures and developing precise evaluation criteria on a European scale.
- Implementing a media strategy, including social marketing.

EGEA 2015 - HEALTHY FOOD & ENVIRONMENT IN THE CONTEXT OF A BALANCED DIET: THE ROLE OF F&V

The 7th edition of the EGEA conference held in Milan brought out numerous recommendations in different areas to encourage and promote the consumption of fruit and vegetables:

- Information and education:** Integrate nutrition into school curricula and increase consumer awareness of health-related issues, in accordance with WHO guidelines.
- Food environment:** Support promotion and marketing actions in the fruit and vegetable sector. Promote the consumption of fruit and vegetables at school level by supporting the European "Fruit for Recreation" / "School Fruits

Scheme" and promote healthy food in public establishments. Encourage access to fruit and vegetables among the most disadvantaged populations.

- I Food sector:** Financially support the production of fruit and vegetables as much as the other agri-food sectors and encourage the supply chain to ensure better accessibility for consumers. Encourage research to increase the production and variety of fruit and vegetables while respecting the environment. Indeed, this increase will create jobs.

PARTNERSHIPS

FRENCH FEDERATION OF CARDIOLOGY

To carry on its work with health professionals, Aprifel has been working with the French Federation of Cardiology (FFC) since 2017 for a three-year partnership. Indeed, cardiovascular diseases are the first cause of death in the world, the second in France just after cancers. A healthy lifestyle and in particular a diet rich in fruit and vegetables are one of the key factors in preventing these diseases. Cardiologists are therefore very often confronted with the need to provide advice to encourage their patients to adopt a healthy diet.

In 2017, a summary of knowledge on fruit and vegetables and the prevention of cardiovascular disease was produced and distributed to 150 practices in 2 French regions particularly affected by cardiovascular disease.

In 2018, a study, designed jointly by the FFC and Aprifel's Scientific board, was set up in order to better understand the current practices of 200 cardiologists in the field of nutrition. It was conducted among a representative sample of French cardiologists. The results of this study were presented by Dr. Assyag, Vice-President of the French cardiologists in France, at the EGEA 2018 conference. They highlight the low importance given to nutrition by cardiologists and the fact that they find this field difficult to address in consultation and would like support for training and for their work.

Following these observations, the year 2019 was devoted to the creation of a patient leaflet and poster entitled "A healthy heart within reach with fruit and vegetables".

These materials are intended to facilitate doctor-patient dialogue and aim to provide patients with practical advice on how and why it is important to eat more fruit and vegetables on a daily basis. These documents were distributed to 18% of French cardiologists in France and affected 32,000 patients. A month

after the campaign, more than 50% of cardiologists have seen the documents, 96% found these documents adapted and useful and 88% said they talked more about nutrition.

ANSES

In 2017-2018, Aprifel partnered for two years with Anses (12) to provide data on the nutritional composition of fruit and vegetables consumed in France. In France, the reference database on the nutritional composition of foods – the Ciquial table – is managed by Anses. The database is a major tool for nutrition professionals and is also widely used by agri-food professionals, nutritional epidemiology research teams, but also by the general public.

In 2017, a first phase of analyses on products consumed raw was started with summer products. This work continued in 2018 with the analysis of winter products consumed raw, as well as cooked fruits and vegetables, in order to see the impact of cooking methods on nutrient content.

The analysis protocol was developed with the help of Aprifel's Scientific board. A chef and dieticians also helped out and gave recommendations on preparation and cooking methods that were also integrated in order to have data as close as possible to actual consumption habits.

In addition to the classic nutritional composition analyses carried out by an approved laboratory, the determination of the polyphenol content of certain products was also carried out either by the CTIFL (13) or by the CTCPA (14). These substances, which are interesting from a health point of view, are in fact particularly present in fruit and vegetables.

The updated data resulting from this work will be integrated into the updating of the Ciquial database and the overhaul of the Aprifel site, both scheduled for 2020.

STUDIES BY APRIFEL'S SCIENTIFIC BOARD

Aprifel's Scientific board has three main missions:

- I To examine and analyse recent scientific data dealing with issues specific to the fruit and vegetable sector: health and environmental benefits of fruit and vegetable consumption, societal issues related to phytosanitary products, etc.

- To issue recommendations for the industry on the prediction and assessment of risks to human health and the environment.
- To develop background files, opinions and explanatory notes in order to identify appropriate actions in terms of research and/or information.

CONCLUSION

In conclusion, Aprifel has spent many years striving to disseminate scientific proof and gone beyond borders and disciplines in encouraging people to eat fruit and vegetables. The information and communication campaigns it spearheads aim to translate science into action and to facilitate initiatives on the ground and in political spheres. They originate from national, international multidisciplinary forms of collaboration, intended to reach as wide a public audience as possible to promote exchanges and preserve information. Aprifel has organised height international congresses (EGEA Conference) including one European dialogue meeting as part of a triennial European program (EAGF 509), most of which thanks to EU support.



ACTION	AUDIENCE	YEARS	IMPACT/ RESULTS
Equation Nutrition & GFVN	General public & health professionals	Since 2000/ 2006	EN: 4,000 subscribers (300 new in 2019) GFVN: 13,400 subscribers (3,500 new in 2019) in 30 countries (FR, EN, ES)
Scientific monitoring	Health professionals	All along	10,000 abstracts of scientific articles in the Nutrifel database & contact with international experts
Follow me to be Healthy with Europe	General public	2019-2021	1M views on YouTube videos - 5,000 followers on social media - 2,500 people reached during events
Fruit & Veg 4 Health	General public & health professionals	2018-2020	600,000 patients sensitized 1,3M brochures distributed via magazines
5 a Day program	General public	2021-2022 (TBC)	/
Short TV program & YouTube channel	General public	Since 2017	TV: 40 episodes - Audience: 10M each year 14M views for Graines de Savoirs on YouTube
Consumers' board	General public	Since 2009	Every year, a mini-colloquium with various topics discussed
Website & social media	General public	Since 2017	Overhaul of Aprifel website in 2020 Followers: 1,000 on Twitter - 14,000 on FB
Institutional catering	General public	Since 2019	A vegetarian meal once a week in school catering. Other topics submitted: recommendations to the early childhood sector and the elderly
EGEA	Health professionals	Since 2003	EGEA 2018: 300 participants & 30 countries 8 editions of this international conference
Fact sheets	Health professionals	2019-2020	7 sheets in 2019 - 10,000 downloads 20,000 doctors reached
Nutritional sheets	General public & health professionals	2019-2020	120 sheets on the nutritional analysis of F&V
French Federation of Cardiology partnership	Health professionals	Since 2017	Heart brochure: 18% of cardiologists reached and 32,000 patients 88% of cardiologists talked more about nutrition
Anses partnership	Health professionals	2017-2018	82 products analysed
Scientific board	Health professionals	All along	Studies on health and environmental benefits of F&V consumption, societal issues related to phytosanitary products...

FOR MORE INFORMATION:

<https://www.lesfruitsetlegumesfrais.com/>

<http://www.Egeaconference.com>

<http://www.aprifel.com/>

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13. Interprofessional Technical Centre for Fruit and Vegetables.
14. Agro-Food Technical Centre.





MEXICO

5XDAY PROGRAM IN MEXICO

Floria Paris Lucovich. 5XDAY Foundation, A.C.



BACKGROUND

The current global focus on food as drivers for the prevention of non-communicable diseases, opens up the possibilities of successfully increasing the demand and consumption of fruits and vegetables. It is essential to take into account that Mexico is prepared and capable of supplying these products to the population, resulting in benefits not only in sales but also in a decrease in waste for producers, especially in these times of worldwide financial crisis.

The National Health and Nutrition Survey ENSANUT 2012 (1) revealed the most important nutrition related problems, among which were the low prevalence of exclusive breastfeeding, chronic malnutrition in children under 5, anemia, overweight and obesity among the Mexican population, as well as the high percentage of Mexican households that were perceived as food insecure.

The Halfway National Health and Nutrition Survey ENSANUT MC 2016 (1) confirmed the high prevalence of overweight and obesity as the most frequent nutritional problem in school children, adolescent and adult population and that, over the past three decades, the adverse health effects caused by the excess body weight have been accumulated alarmingly. The ENSANUT MC 2016 results established the need to develop immediate actions to stop the increase of the overweight and obesity, primarily through prevention.

However, the results obtained in the 2018 National Health and Nutrition Survey of Mexico (2) are not encouraging due to the continued increase in the prevalence of overweight and obesity, generated by an incorrect diet, as shown below:

Children between the ages of 5 to 11 conform the group that reports the highest consumption of non-recommended foods, such as sweetened non-dairy beverages (85.7%), snacks, sweets and desserts (64.65%), sugary cereals (52.9%), sweetened dairy beverages (38.2%) and processed meats (11.2%). The prevalence of overweight in children from 0 to 4 years old went from 9.7% (in 2012) to 8.2% (in 2018); of which 8.4% occur in urban localities and 7.8% in rural localities; in the child population group 5 to 11 years old, the combined prevalence of overweight and obesity went from 34.4% (in 2012) to 35.6% (in 2018), reporting an increase of 1.2%.

The age group 12 to 19 presented an increase in combined prevalence of overweight and obesity that went from 33.2% in 2012 to 35.8% in 2018, with the states of Veracruz, Quintana Roo, Colima, Sonora and Tabasco reporting the highest percentages. Among the population aged 20 and over, the combined prevalence of overweight and obesity went from 71.3% (in 2012) to 75.2% (in 2018); 39.1% are overweight and 36.1% are obese.



That is why the Foundation seeks to develop innovative strategies that promote the consumption of Mexican fruits and vegetables seeking a change of habits in the population, directly benefiting the health of Mexicans as well as the country's agricultural sector.

Established in 2003, the 5XDAY Foundation A.C. adopts the 5xDAY program in Mexico, to promote the daily consumption of 5 servings between fruits and vegetables (equivalent to the 400 grams recommended by the World Health Organization -WHO), emphasizing those produced in Mexico, as a part of a nutritious diet and promoting a change of eating habits in the population. The main objectives include encouraging the improvement of the population nutritional status, promoting the consumption of these fresh products produced in Mexico, supporting their promotion and generating greater demand that directly benefits the Mexican agri-food sector.

Since 2005, the Foundation has promoted the creation of an International Network of 5 a Day programs, founding in 2011, together with 14 different 5 a Day organizations in Latin America and Europe, the Global Alliance for the Promotion of Fruits and Vegetables Consumption "5 a Day" - AIAM5, which to date is made up of 38 organizations from 31 countries, whose objective is to promote the consumption of fruits and vegetables to improve the health of the population in each of their countries.

GOALS

The Foundation's goals and objectives are aimed at achieving a positioning and permanence of the 5xDay program, as a benchmark for the consumption of Mexican fruits and vegetables and healthy eating, as well as a change in eating habits among the Mexican population, by increasing the consumption of Mexican fruits and vegetables.

The objectives of the 5xDay Foundation are mainly aimed at linking producers and consumers:

1. Achieve an increase in the consumption of fruits and vegetables among the population, from 235 grams to 400 grams or more in the next 10 years, benefiting the Mexican population and countryside.
2. Position the image and message of the "5XDAY" program at a national level, in all social sectors, as a reference to promote the consumption of Mexican fruits and vegetables.

3. Influence future generations on the importance of consuming Mexican fruits and vegetables, to improve their health.

SUCCESS FACTORS

- Be the program that manages to increase the sale and consumption of fruits and vegetables in Mexico.
- Be the program that achieves a change in eating habits among the Mexican population, mainly in new generations.
- National recognition of the 5xDay program, as a reference promoting fruits and vegetables consumption.

The 5XDAY Foundation is a non-profit civil association, which through its 5xDay program promotes intangible assets such as: a better quality of life among the Mexican population and provide the members of the Mexican production chains, mainly fruits and vegetables producers, with the essential tools to inform consumers on the benefits of increasing fruits and vegetables consumption, and create a greater demand for Mexican fruits and vegetables.

A greater consumption of Mexican fruits and vegetables would help not only the nutrition and health status of Mexicans, but also improve the income of Mexican farmers. There is a wide variety of fruits and vegetables in Mexico, of which only a small percentage is identified by consumers, therefore it is relevant to bring consumers closer to the field to show them the great variety of products produced in Mexico.

To achieve its objectives, the Foundation has created different educational and promotional projects, to sensitize and motivate the population to increase the consumption of Mexican fruits and vegetables. These projects are aimed at the entire population, focusing efforts on two relevant sectors:

Women (housewives): since they are the decision makers of what is consumed at home, reaching them would benefit the entire family group.

Children: there is evidence that what is learned during childhood is later adopted in adult life, so training children in healthy eating habits can help them to improve their health as adults.

The Foundation has carried out promotional and educational activities in order to reach these two groups, such as:

- **Promotion campaigns:** Implemented in mass media and street ads such as: advertising at public bus stations, advertising on buses, ads and mentions on radio and television programs, points of sale activities (self-service, markets and farmers' markets), among others.
- **Food training workshops:** At elementary and high schools and communities.
- **Plays:** Aimed at children in public and private elementary schools.
- **Show cooking and tasting workshops:** At supermarkets, markets and farmers' markets.
- **Workshops of recipes and fruit and vegetable donation:** At shelters for homeless children and families.
- **National and International Congresses:** Aimed at nutrition professionals, producers, marketers, the Government sector, the academic sector, the general population.
- **Participation in fairs and expos:** Promoting the importance of consuming fruits and vegetables.
- **Commercial Capacity Development Project:** Aimed at small producers of fruits and vegetables, training them in commercializing their products, which allows them to compete in the national market.
- **5xDay School Gardens Project:** Aimed at the school population (children, parents and teachers), which consisted of installing a hydroponic garden for planting and growing vegetables, food training workshops for children, parents and teachers, planting, care and harvest activities, anthropometric measurements at the beginning and end of the school year, as well as surveys on food consumption.
- **Social networks:** Aimed at the entire population with recommendations, recipes, contests, games, etc., with a simple and didactic approach to apply them in daily life.

I Strategic alliances with various sectors:

- Government Entities: Agriculture and Rural Development Secretariat; Health Secretariat; Public Education Secretariat
- Productive Sector: Mexican producers of fruits and vegetables
- Private Sector: Companies in the agri-food sector
- Organizations of the Agricultural and Commercial Sector: National Agricultural Council, National Association of Self-service and Department Stores, México Calidad Suprema
- International Organizations: AIAM5 (Global Alliance for the Promotion of Fruits and Vegetables Consumption “5 a Day” - AIAM5)
- Academic Institutions: Salvador Zubirán National Institute of Medical Sciences and Nutrition, La Salle University, Ibero-American University, University del Valle de Mexico, Insurgentes University.

RESULTS

- I 15 % increase in sales of fruits and vegetables at supermarkets during activities in their point of sale (guaranteed increase in consumption).
- I More than 45,000,000 people were reached since its creation.
- I 10,900 children benefited from the 5XDAY School Gardens project, as well as their parents and 30 school institutions.



5XDAY SCHOOL GARDENS PROJECT:

BACKGROUND

At present, the relationship between food and health is widely accepted and there are many data that associate diet with the incidence or prevention of some diseases, since eating habits of a population are a decisive factor in their health status.

Schools are one of the main social contexts in which knowledge, behaviours, attitudes, values, and life skills develop (e.g., personal responsibility, self-esteem, teamwork, decision-making and planning). They offer an effective channel to reach children at times when habits and attitudes are being formed. Schools have a role, along with parents, in guiding children towards maturity and therefore can play an important role in educating on food, agriculture and nutrition.



The 5xDay School Gardens program is aimed at educating the school population on food, with the idea that, if children have a holistic approach to food, it can lead them to make more appropriate and healthy decisions regarding food choices, thus promoting a more adequate diet and healthy consumption habits.

The creation and care of a backyard garden, teaches about the natural world, its beauty and how to take care of it, how to make the best use of the resources we have and develop a skill for cultivating, in order to improve eating habits.

The program has four pillars: cultivation, harvest, awareness about a balanced and correct diet, as well as caring for the environment and teamwork.

GENERAL OBJECTIVE

- I Strengthen a strategy to promote the healthy consumption of fresh products among the school population in order to reinforce skills for the adoption of healthy eating habits and practices.



TARGET POPULATION

- | Children between 6-12 years old, each month they will receive a visit from a nutritionist and a farming technician who will teach workshops on nutrition and on the care of a garden; with a total of 9 workshops according to the duration of the project.
- | Once a month parents and teachers will have nutrition workshops and one by a farming technician on the implementation of a backyard garden.
- | There are two special factors in the program:
 1. The intrinsic relationship between cultivation and food.
 2. The emphasis on learning about the food groups and how to consume them.
- | Both parts of the program need each other to exist.

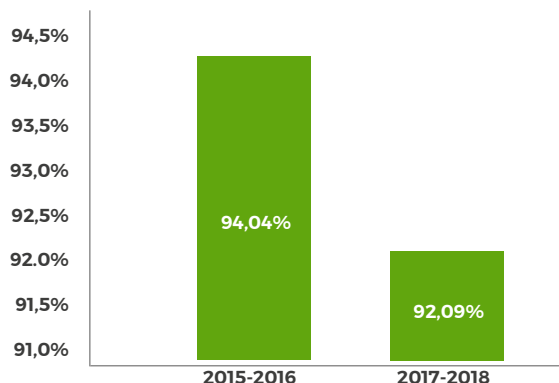
BENEFITS

- | **Child population:** They acquire lifelong gardening skills and in decision making when selecting their food, as well as the meaningful learning of healthy food production processes, through classroom reinforcement with lessons as part of the school program.
- | **Schools:** The construction of internal and external work networks, recognition of innovative activities aimed at learning.
- | **Parents:** They obtain general knowledge on implementing a garden and on nutrition through food training sessions to reinforce learning in their children.
- | **Measurement outcomes**
 - Child population surveys.
 - Measurement of weight and height of the child population.
 - Assess survey for directors.

DATA COLLECTION METHODS	GOAL	2015-2016 SCHOOL YEAR	2017-2018 SCHOOL YEAR
Apply a survey at the beginning and end of the program, to make an initial diagnosis and a final evaluation of the program's impacts.	That 80% of the participating population improve their general knowledge of nutrition.	2.118 (94,04%) of the 1st-6th grade students who participated in the initial and final survey increased their knowledge of nutrition based on the dietary guidance provided during the 2015-2016 school year. The purpose was to complete 80% of this objective throughout the project; although according to the results, we got 14% more than we expected. There were more than 4.000 students reported by the participating schools who registered and who benefited from this project during the 2015-2016 school year, these students participated in: the school garden, the food orientation talks, manuals, etc. All students were affected by at least one of the actions of the project mentioned above. For this purpose, we only considered students who answered, in a complete way, the final nutrition exam. Not all students were able to answer it completely for different reasons, such as: not attending or the non-participation in school or extracurricular activities. Although not all children were able to perform the knowledge assessment, the number of children reached is significant and is a representative sample that indicates a change in their nutritional knowledge.	Students surveyed: 2.463 Students surveyed twice (initial and final): 2.062. We only considered 1st-6th grade students who answered the initial and final nutrition exam. Not all students were able to answer it completely for different reasons, such as: not attending or not participating in school or extracurricular activities. The results were as follows: 1.899 (92,09%) of the students in 1st-6th grades increased their knowledge of nutrition according to the food guidance provided during the 2017-2018 school year. For this purpose, key questions were included: good nutrition helps growth, what a garden is and how a plant grows. The purpose was to complete 80% of this objective throughout the project; based on the results, we obtained 12,09% more than what was initially set out as our goal. Close to 3,197 students benefited from this project during the 2017-2018 school year, the students participated in: food training talks, manuals, workshops in the gardens, etc. At the beginning of the school year there were difficulties due to the September earthquake, however, all returned to normal and we concluded satisfactorily. Although not all children were able to perform the knowledge assessment, the number of children reached is a significant and representative sample that indicates the change in their nutritional knowledge.

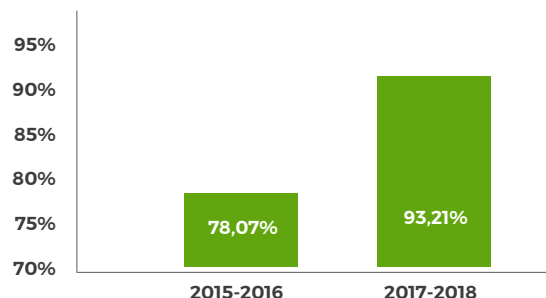


INCREASE IN GENERAL KNOWLEDGE ON NUTRITION



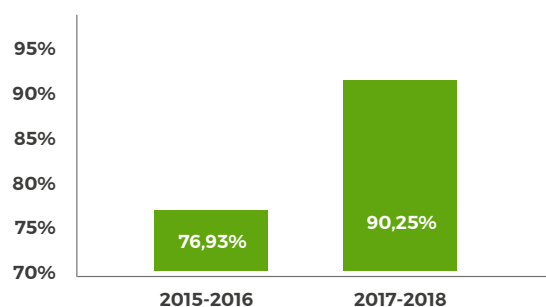
DATA COLLECTION METHODS	GOAL	2015-2016 SCHOOL YEAR	2017-2018 SCHOOL YEAR
Apply a survey at the beginning and end of the program, to make a diagnosis and a final evaluation of the impacts of the program.	That 50% of the participating population improve their eating habits.	According to the final evaluation, the participating students 1.617 (71,05%) achieved to modify their eating habits (they eat breakfast and consume vegetables and fruits more frequently). According to their parents, 78,07% achieved modifications in their eating habits (consuming vegetables and fruits, water, eating healthier and having breakfast before leaving their homes). We set as our goal to modify eating habits in 50 %, but we passed this by 21,05% to 28% more than expected. Only the students who answered the final survey on eating habits completely were considered. Not all the students were able to answer it for different reasons, such as lack of attendance or non-participation in some of the activities. Nonetheless, this is a significant and representative sample that indicates a positive change in children's eating habits. Basic data were obtained from 2.276 students previously authorized by their parents.	The surveys, measurements, and workshops began in October, as scheduled on the project calendar as well as the prior authorization by parents. The results were as follows: 1.558 (59,87%) eat breakfast more frequently, 1.200 (58,19%) of the children increased their fruit consumption to 3 or more fruits. 1.922 (93,21%) consume 2 or more fruits, 1.562 (75,75%) consume 3 or more vegetables. We set as our goal to modify eating habits in 50 %, but we passed this by 21,05% to 28% more than expected. Only the students who answered the final survey on eating habits completely were considered. Not all the students were able to answer it for different reasons, such as lack of attendance or non-participation in some of the activities. Nonetheless, this is a significant and representative sample that indicates a positive change in children's eating habits.

IMPROVEMENT IN EATING HABITS



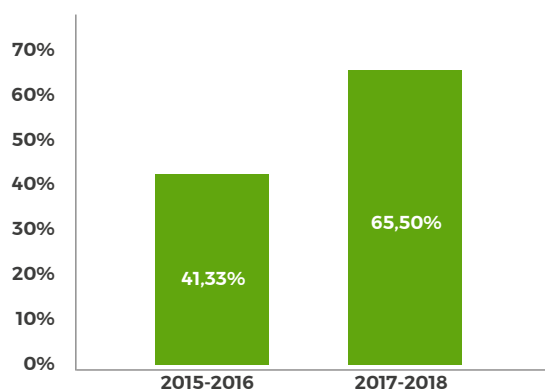
DATA COLLECTION METHODS	GOAL	2015-2016 SCHOOL YEAR	2017-2018 SCHOOL YEAR
Apply a survey at the beginning and end of the program, to make a diagnosis and a final evaluation of the program's impacts.	That 50% of the participating population adopt healthy eating habits.	1,751 (76,93%) of the referred students have modified their habits (exercise and consumption of water) to healthier ones. The goal established at the beginning of the project was exceeded by 26,93%. From the applied survey, 2,276 students who met the criteria participated and also had their parents' permission to participate. 1,861 (90,25%) students increased to more than three days of exercise per week.	1.888 (91,56%) increased their water consumption to more than 1 liter per day. In total, 1.727 (83,75%) students adhered to better and healthier habits. The goal established at the beginning of the project was exceeded by 33,75%.

INCREASE IN HEALTHY HABITS



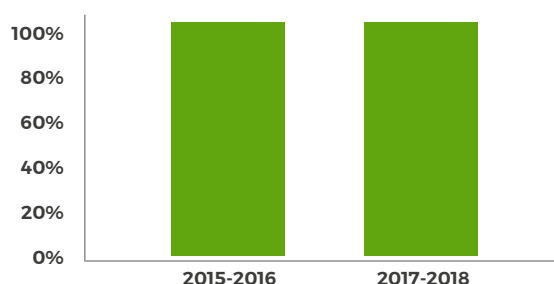
DATA COLLECTION METHODS	GOAL	2015-2016 SCHOOL YEAR	2017-2018 SCHOOL YEAR
Measurement of weight and height by specialized personnel, with the prior authorization of the parent / guardian. Performance of statistical analysis at the end of the program.	That at least 40% of the participating population improve their nutritional status.	Results of the initial and final anthropometric measurements: - 570 (46,15%) of the children diagnosed as underweight improved to normal weight. - 188 (15,17%) of the children diagnosed as overweight improved to a normal weight. - 104 (8,39%) of the children diagnosed as obese went down to a being overweight, therefore, their nutritional status improved. - 1,183 (95,71%) of the children who were measured increased their height, which indicates a state of healthy growth. In total, 41,33% of the participating children improved their nutritional status. According to the established objective, this was exceeded by 1,33%. - 1,236 students received the initial and final measurement and with parent permission.	This activity was carried out by a nutritionist. Only children who presented a signed parent authorization were measured and weighed. The results are: Children evaluated = 1.584 A = Children who went from "Obese" to "Overweight" = 26 B = Children who went from "Overweight" to "Normal Weight" = 42 C = Children who went from "Normal weight" to "Low weight" = 20 D = Children who went from "Low weight" to "Normal weight" = 16 E = Remained "Obese" = 174 F = Remained "Overweight" = 181 G = Remained "Normal weight" = 955 H = Remained "Underweight" = 26 84 (5.3%) students improved their nutritional status and 955 (60.2%) remained at an adequate weight (which is also considered as progress) therefore, 1,039 (65.5%) students improved their nutritional status. This exceeds the initially established expectation (40%).

IMPROVEMENT IN NUTRITIONAL STATUS



DATA COLLECTION METHODS	GOAL	2015-2016 SCHOOL YEAR	2017-2018 SCHOOL YEAR
Visit from a gardening expert, for the purpose of monitoring the school garden and providing instructions related to garden care, as well as training for school personnel in the care and maintenance of the garden.	100% of school gardens are produced in a self-sustaining model. At the end of the project, the Foundation will donate the garden to the school.	100% of the goal was achieved, because all participating schools had a school garden based on a self-sustaining model. They harvested various vegetables such as lettuce, radishes, coriander, onions, chard, tomatoes, among others.	100% of the goal was achieved, since all the participating schools had a school garden based on a self-sustaining model. They harvested various vegetables such as lettuce, radishes, coriander, onions, tomatoes, among others.

SELF-SUSTAINING PROJECT



CONCLUSIONS

The 5xDay program in Mexico has a very noble purposes and a message that is positively received and immediately accepted among the Mexican population. Its originality lies in the fact that it is not positioned only as a health program, but as a one focused on teaching in a simple and dynamic way healthy and nutritious foods consumption habits, in addition to supporting the Mexican producers and their products, generating empathy among the population. In conclusion the program guides us to eat in a healthy way, with pleasure and motivates the purchase of Mexican fruits and vegetables.

The projects carried out achieve an important impact and positive results among the population, due to constant and continuous participation by the target population, allowing for greater awareness of the importance of change towards a healthier and balanced diet which in turn improves health and nutrition of the selected population.

Due to this very positive impact, it is necessary to give a greater scope to the promotion that is carried out, giving continuity to the program and the campaign, in order to achieve a positioning of the program and ultimately a significant increase in the consumption of Mexican fruits and vegetables (3).

The promotion carried out by the 5xDay Program has sought to fulfil the purpose for which it was created: promotion of the consumption of Mexican fruits and vegetables.

The program is socially useful and necessary, given the problems of obesity and malnutrition that the country faces and the need to increase the intake of fruits and vegetables of the Mexican population in general, in addition to having good levels of credibility among the beneficiary population.

Despite having good acceptance among the population, the 5xDay program presents several challenges, such as:

- **Financial support:** to achieve a change in habits among the population, a greater presence and continuity of the projects that are carried out is required, which is why the economic support and participation of all economic sectors of the country is required.
- **Government support:** since its creation, the Foundation has had the support of the Government to carry out promotional and awareness campaigns on the consumption of fruits and vegetables, however, continuous support is required in order to be able to permeate the Mexican population.
- **Unification of the message:** Although the 5xDay program in Mexico has achieved a positioning among the population, it is essential to achieve a homologation of the 5xDay message, as a reference when talking about the consumption of fruits and vegetables, this will allow for greater clarity on how much and how to consume fruits and vegetables, as well as the optimization of resources in the efforts made by different sectors to raise awareness about healthy eating habits.
- **Joint participation of all sectors:** In order to combat the great problem of obesity, overweight and other diseases, the participation of all sectors is required: health, producers, academics, NGOs, local, state and federal governments, industry, among others, in order to have a greater reach among the population, as well as the optimization of resources and efforts made.

SUMMARY

The 5xDay Foundation, in Mexico, is a non-profit civil organization that seeks to improve the health status of the population, seeking to modify their eating habits, through promotion and awareness projects. This document refers to the objectives, goals and activities that the Foundation has carried out during 17 years of existence, as a sample of the hard work and the results obtained, which make it possible to publicize the need for these promotion programs that encourage the consumption of fruits and vegetables, in order to improve the health of the general population in each country.

FOR MORE INFORMATION:

<http://www.cincopordia.com.mx/>

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NEW ZEALAND

5+ A DAY NEW ZEALAND

Paula Dudley¹, Carmel Ireland¹
¹5+ A Day Charitable Trust, New Zealand.



BACKGROUND

The 5+ A Day initiative was launched in New Zealand in 1994 by the New Zealand fresh fruit and vegetable industry. In 2007, the 5+ A Day Charitable Trust was established for the benefit of all Kiwis, especially children. The Trust is committed to increasing the consumption of fresh fruit and vegetables for better health in all New Zealanders.

5+ A Day funding is generated from voluntary contributions from New Zealand's fresh produce industry.

VISION

To have all New Zealanders understanding and enjoying the benefits of a daily diet rich in fresh fruit and vegetables.

NEW ZEALAND CONSUMPTION FIGURES

Currently 53.1% of New Zealanders are consuming the recommended three or more servings of vegetables and 51.5% are consuming the recommended two or more servings of fruit (1). These figures have been tracking downwards for the past decade. 5+ A Day is actively working to address this trend and increase consumption rates.

INTERVENTION STRATEGIES

The following strategies form a multi-faceted approach to increasing fruit and vegetable consumption in New Zealand. The strategies aim to reach a broad audience by targeting children through educators, health professionals, the horticulture industry, house-hold shoppers and consumers.

EDUCATION

5+ A Day focuses its work in the education setting. Teaching resources are developed that link to the New Zealand Curriculum and promote awareness, understanding and knowledge of the importance of eating 5+ A Day. These are distributed free-of-charge to educators and health professionals and are available for order via www.5adayeducation.org.nz and www.5aday.co.nz.

The extensive range of resources include both print and digital interactive materials that focus on eating plenty of seasonal fruit and vegetables, germinating seeds, composting, growing your own fresh vegetables and more. A study of school Principals by Quigley & Watts (2) rated 5+ A Day education resources at the most effective resources available at supporting curriculum teaching of health.



FRUIT & VEGETABLES IN SCHOOLS



Fruit & Vegetables in Schools (FIS) is a government-funded initiative that provides daily fresh fruit and vegetables to school children in areas of high need. 5+ A Day was involved in piloting the initiative in 25 schools in 2004 and has seen it grown to reach:

- 21 regions across New Zealand.
- 553 schools (around 25% of NZ primary schools).
- 123,000 children and staff.
- 25,000,000 servings of fresh fruit and vegetables every year.

The 5+ A Day Charitable Trust supports FIS by providing curriculum-linked resources that support learning about healthy lifestyles.

FIS 'normalises' consuming fresh fruit and vegetables as produce is delivered for every student and staff member for each school day. Consequently, consumption has increased in this population (3).



5+ A DAY IN THE COMMUNITY

Through a combination of education, public relations and communications, 5+ A Day has built awareness of the brand and initiative to over 90% (4,5).

HEALTH PROFESSIONALS

The 5+ A Day Charitable Trust engages a network of Health Professionals working in schools and communities to promote and reinforce healthy eating messaging. 5+ A Day supports the Health Professionals by providing them with engaging and informative resources.

Health Professionals are kept up-to-date on the work of 5+ A Day via newsletters and physical mailouts.

WEBSITES

www.5adayeducation.org.nz is a dedicated website for educators, titled 'Growing & Learning with 5+ A Day'. This houses all teaching resources and information to support learning about fresh fruit and vegetables.



www.5aday.co.nz is targeted towards consumers and provides fresh fruit and vegetable inspiration for every meal and snack opportunity throughout the day. This is regularly updated with news, facts, recipes and seasonal promotions. Links to social media are provided here.

RECIPES & SERVING SUGGESTIONS

Every season 5+ A Day develops and photographs new recipes and serving suggestions that maximise the nutrition, taste and versatility benefits of fresh fruit and vegetables. These are easily searchable for each fruit and vegetable.

COMMUNICATIONS & PUBLIC RELATIONS

TELEVISION

5+ A Day leverages partnerships to achieve a presence on television. Examples include:

Eat Well For Less New Zealand - 5+ A Day's partnership with the Eat Well For Less New Zealand television show saw 5+ A Day key messages broadcast to a wide audience, reaching millions of Kiwis each week for eight weeks.

What Now - Through providing the popular children's television show, What Now, with fresh fruit and vegetables, 5+ A Day key messages are shared with the audience of predominantly children. The seasonal fresh fruit and vegetables are provided for the cast and audience to enjoy onscreen during the live filming.

Television Commercials - Whenever possible 5+ A Day leverages its status as a charitable trust to access affordable advertising rates to broadcast 5+ A Day commercials.

SOCIAL MEDIA - @5ADAYNZ

5+ A Day is steadily growing audiences across social media platforms under the handle @5adaynz. Promoting fresh fruit and vegetables across Facebook, Instagram, Twitter and Pinterest is a relatively cost effective way to reach large audiences.

The various platforms are used to leverage 5+ A Day key messages, share fruit and vegetable inspiration and engage with our audiences.

COLLABORATION

5+ A Day amplifies its messages through collaborating with like-minded organizations. These include other produce industry, non-profit health, sporting, education and hospitality organizations.

CONFERENCES/PRESENTATIONS

5+ A Day supports and presents at New Zealand health, education and horticulture industry conferences to share 5+ A Day messages and promote the consumption of fresh fruit and vegetables for health.

SPONSORSHIP

Strategic sponsorship ensures 5+ A Day messaging is shared with broad audiences. Sponsorship is offered to sport, cooking, education, arts and gardening organisations.

CONCLUSIONS

It is clear from the research that New Zealanders are aware of the 5+ A Day message and health benefits associated with eating fresh fruit and vegetables. However, population consumption figures continue to reduce.

One proven strategy to increase consumption is the Fruit & Vegetables in Schools initiative. This initiative reaches 25% of primary schools in New Zealand, therefore represents a significant increase in consumption. However, the initiative is limited by funding. 5+ A Day continually advocates for more funding to expand the initiative.

In general, 5+ A Day promotion strategies achieve good engagement relative to investment. Again, the limiting factor is budget. As the Trust relies on voluntary contributions for funding, scaling up of activities is not possible at this time.

SUMMARY

The 5+ A Day initiative launched in New Zealand in 1994. In 2007, the 5+ A Day Charitable Trust was established for the benefit of all Kiwis, especially children. The Trust is committed to increasing the consumption of fresh fruit and vegetables for better health in all New Zealanders.

Strategies to increase consumption in New Zealand aim to reach a broad audience by targeting educators, health professionals, the horticulture industry and consumers. These include distributing curriculum-linked teaching resources, public relations and communications, sponsorship, collaboration and more. 5+ A Day funds its work through voluntary contributions from New Zealand's produce industry.

Efforts to increase consumption have ensured awareness of the 5+ A Day brand and messaging remains high at over 90%, however, consumption figures are steadily declining. Work to arrest this trend are restricted by limited funding.

One area of work that is proven to increase consumption is the Fruit & Vegetables in Schools initiative. 5+ A Day advocates for the expansion of this initiative and is currently seeking additional funding from government ministries to enable more schools to access the initiative.



FOR MORE INFORMATION:

<https://www.5aday.co.nz/>

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NORWAY

5 A DAY - KINDERGARTEN, NORWAY

THE NORWEGIAN FRUIT AND VEGETABLES MARKETING BOARD (OFG)

Elisabeth Skjegstad¹, Guttorm Rebnes¹
¹5 a Day – kindergarten, Norway.

BACKGROUND

In 2019, there were 5,730 kindergartens in Norway and of these, 3,037 were private institutions, while 2,693 were run by a municipality. In total, 275,084 children attend kindergartens in Norway, which means that almost 92% of all children in Norway aged 1–5 attend kindergarten (1).

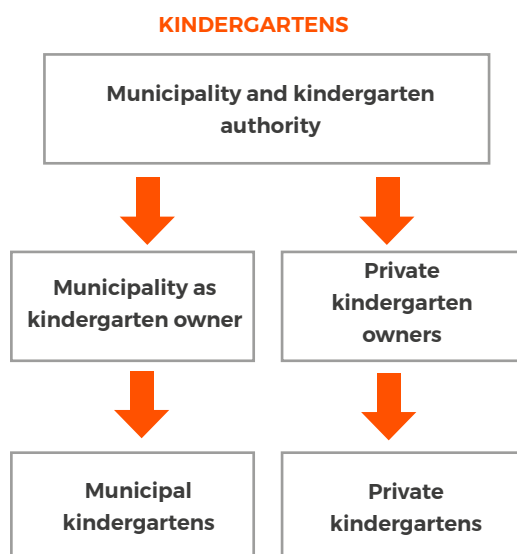
Kindergartens in Norway are regulated through the Norwegian Kindergarten Act (Barnehageloven) (2). The provisions of the act apply to both public and private kindergartens. Responsibility for the kindergartens is shared between the Norwegian Ministry of Education and Research, the Norwegian Directorate for Education and Training, the County Governors, the municipalities and the kindergarten owners. The Norwegian Ministry of Education and Research holds overarching responsibility for the kindergarten sector. The Norwegian Directorate for Education and Training is tasked with providing professional input and implementing adopted national policy decisions. The County Governors implement the kindergarten policy in the individual counties through administration of state grants, assignments set out in the Kindergarten Act, and guidance of the municipalities.

The Kindergarten Act stipulates that the municipality is the local kindergarten authority. The municipalities are thus responsible for approving and monitoring the kindergartens – both public and private – within their area. The municipal authorities are obliged to offer kindergarten places to all children in the municipality who are entitled to such a place. They are also to guide, approve and monitor the kindergartens in the municipality.

The municipality is to make sure that the activities are run within the framework of the approval granted, that the kindergarten regulations are not in conflict with legislation, and that the content complies with the law and the framework plan. Creating good kindergartens for all children is one of the key tasks of the municipal authorities. The municipality has overarching responsibility for the quality of the kindergarten provisions, irrespective of whether the kindergarten is publicly or privately run.

Kindergartens are divided into three groups:

1. Kindergartens that are **run by the municipality**.
2. **Non-profit kindergartens:** Owned by organisations with objectives other than earning money. Their purpose may be religious or social, for example.
3. **Commercial kindergartens:** Owned by private individuals or companies that focus on running kindergartens. The biggest of these companies generate billions of kroner in turnover and employ thousands of people. The smallest run just a single kindergarten and have fewer than five employees. Both non-profit and commercial kindergarten are private operations, but as the name suggests, the non-profit organisations do not pay out dividends.



A maximum price has been set in Norway that applies to all kindergartens. At present, the maximum price is NOK 3.135 per month and it applies to all types of kindergarten, irrespective of whether they are run by the municipality or a private owner. The limit is set by the Norwegian parliament, the *Storting*. A municipality may offer parents a lower price than the maximum price, and a system of means-tested payment for parents has been introduced to enable more people to benefit from the offer of a kindergarten place. Kindergartens may charge for meals (food fee) in addition to the maximum price.

The framework plan for the content and tasks of the kindergarten, (3) constitutes an important supplementary regulation alongside the Kindergarten Act. It explains in detail the provisions of the act regarding the purpose of a kindergarten, its content and the participation of the children. The framework plan sets out requirements on kindergartens with a view to ensuring that all children receive a kindergarten offer of good quality. The current framework plan came into effect on 1 August 2017. The chapters of the framework plan deal with the value basis, responsibilities and roles of the kindergarten, its purpose and content, child participation, interaction between home and kindergarten, the kindergarten as an educational operation, the kindergarten's work methods and the professional areas it encompasses.

NATIONAL GUIDELINES

As kindergartens are the responsibility of the municipality, the composition of the municipal board may have a major influence on the kindergarten provisions. Price, accessibility, food provisions, education quality and the question of who is to run the kindergartens are all issues that are politically defined to some extent.

National guidelines are stipulated in areas where there is a need for national standardisation. These typically centre on issues where there is considerable disagreement in the profession and/or significant variation in practice. The Norwegian Directorate of Health has a statutory mandate to issue national guidelines.

National guidelines for food and meals in kindergartens (4) are based on twelve recommendations. The current guidelines were introduced in December 2018 as a replacement for the 2007 guidelines.

The guidelines state:

Kindergartens welcome children across social dividing lines and from different cultural backgrounds, and have a responsibility to even out social inequalities in areas such as diet. National guidelines for food and meals in kindergartens (4)

are a resource that kindergartens can use to assure the quality of food and meals in the kindergarten. Firmly deployed guidelines have the capacity to improve practice and ensure more balanced provision of meals and drinks for children throughout the country, and this, in turn, can help even out social inequalities in health and diet among children.

Provisions should be adopted to provide at least three fixed meals (breakfast, lunch and afternoon snack) every day, and there should be no more than three hours between meals. Meals in kindergartens may take the form of packed lunches or food served by the institution, and the food may be hot or cold. It is important to allow plenty of time for meals – at least 30 minutes – so that all children have time to eat their fill at a leisurely pace, as well as the opportunity to enjoy a pleasant eating experience. Institutions that serve food and drinks are responsible for ensuring that the food and drinks served align with the dietary advice from the Norwegian Directorate of Health. Kindergartens can contribute to promoting a healthy and varied diet for children by serving fruit, berries and vegetables, whole grain bread and grain products, beans, lentils, peas and nuts, fish, lean meat, low-fat dairy products and food oils, and liquid/soft margarine. Kindergartens should limit the serving of red meats and processed meat products, salt and sugar. All kindergartens should serve fruit, berries or vegetables every day. The assortment served in kindergartens can be viewed in the context of – and, if necessary, adapted to – any fruit, berries and vegetables the children bring with them from home. Kindergartens should make it a goal to ensure that children eat at least three of the “5 a Day” portions of fruit, berries and vegetables over the course of their day at the kindergarten. Half should be vegetables. Even though juice can be included as a part of the “5 a Day”, it should be limited. A lot of children eat less fruit and vegetables than recommended – especially vegetables. Accessibility – along with variation and repetition – is the most important factor in encouraging children to eat more, and the kindergarten has a key role to play in this context. A sufficient supply of chopped vegetables, fruit and berries improves accessibility and can help encourage a higher intake among children. Serving fruit, berries or vegetables at each meal makes it easier to achieve the recommended five portions a day and offer a fully nutritional meal.

Public health has become one of the biggest challenges of our age, and there is clear evidence that differences in health between different social groups have increased appreciably. Differences in habits and lifestyles are increasingly mentioned as a crucial cause of differences in health. Kindergartens constitute an unmatched learning arena outside the home and have a key function to perform in promoting health and preventing illness. Kindergartens also help even out social differences. A healthy diet in the kindergarten is particularly important for children who come from homes with low awareness of issues of

health and diet. Children eat up to three meals in kindergartens every day, and the kindergarten thus has a major contribution to make to children's health. The meals must provide the food and drink necessary for the entire day at the kindergarten. The meals taken in the kindergarten are significant to the health, well-being and learning of the children. A survey conducted by Kantar TNS on commission from the OFG in 2016 (5) revealed that the majority of kindergartens are responsible for serving one or more of the week's main meals, and that only 3% of them are pure "packed lunch" kindergartens that did not serve any food or meals themselves.

START-UP OF 5 A DAY - KINDERGARTEN

In 2005, the Norwegian Directorate for Health and Social Affairs was commissioned by the Norwegian Ministry of Health and Care Services to conduct a survey to map the situation of food and meals in Norwegian kindergartens (6). This was the first time a mapping process of this kind had been instigated by the state authorities, and the survey was conducted at 3,000 public and private kindergartens.

The findings revealed, for example, that 78% of the kindergartens surveyed stated that they served fresh fruit five days a week, while only 15% stated that they offered fresh vegetables as often. Only 15% stated that they never served fresh vegetables in their kindergarten, and 42% stated that they served vegetables occasionally.

Generally speaking, the kindergartens held responsibility for serving drinks on special days and at celebratory events, while they shared responsibility for the food served with the parents of the children. Special days and celebratory events are regular occurrences at kindergartens. Half of the respondents stated that they held such events 2-3 times per month, while 38% said they did so once a month. The food and drinks served on such occasions generally included ice cream, cakes, cupcakes, milk, water and juice. Fully 65% stated that fruit was never or only rarely eaten on special days and at celebratory events.

There was some variation regarding whether the kindergartens/departments had written rules or regulations regarding food and drinks. It was most common to have regulations regarding meals and what the kindergarten served in the way of food and drinks, while fewer institutions had written rules for what children could bring with them from home, or what the institutions could serve in connection with special days and celebratory events. As many as 22% said that rolls and waffles – and 11% said that biscuits – were served once a month, over and above special days and celebratory events.

The food and drinks on offer were good from many perspectives. Nevertheless, there were clear nutritional weaknesses in what was served on a daily basis, and what was presented to the children on special days and at celebratory events. It was clear that the kindergartens needed some tools and educational material for the staff and for communicating information about nutrition and diet to parents. Fortunately, it seems that the kindergarten staff considered it important to include work with food and meals in the kindergarten plans.

The boards stated that staffing, time and finance are the factors that have the biggest influence on the food and drinks served in kindergartens. Administrative and educational staff listed three factors for ensuring children are offered healthy food and meals:

1. include work on food and meals in kindergarten plans.
2. establish a guidance programme for parents.
3. establish a guidance programme for kindergarten staff.

A total of 44% of administrators and 39% of educational managers stated that the kindergarten/department had written guidelines concerning the food and drinks served. One in ten stated that the kindergarten/department did not have any such written regulations or unwritten rules. As regards food and drinks brought from home, 25% had written guidelines, while 40% stated that there were no rules or regulations.

The conclusions drawn:

Many – but far from all – kindergartens served fruit daily. The numbers serving vegetables was remarkably low, however, both as regards the sandwich meal and the hot meal. Fruit and vegetables should be served more frequently. Special days and celebratory events were relatively regular and often involved the serving of food and drinks. In many cases, the refreshments served were cake, ice cream and juice, while fruit and vegetables rarely featured in such contexts. In addition, a number of kindergartens served rolls, waffles and biscuits as “comfort food” outside the formal special days and celebratory events.

The survey revealed that kindergartens were committed to their work with food and meals, but that there was much that could be done to present a better and healthier assortment of food and drinks. The kindergartens expressed a desire

to have this topic included in the kindergarten plans and stated that they need resources to help them work systematically with food and nutrition.

This was the starting point and the situation in the kindergartens when the Norwegian Fruit and Vegetables Marketing Board (OFG) commenced working with food and diet and established the concept of 5 a Day – kindergarten.

STRATEGY AND RESULTS

THE CONCEPT OF 5 A DAY – KINDERGARTEN

Kindergartens constitute one of the most important channels and focus areas for the Norwegian Fruit and Vegetables Marketing Board (OFG). The OFG has a magnificent opportunity to take on a unique role as an impartial and non-commercial player with a high level of credibility. The OFG considers itself to have an important role to play in influencing children's attitudes and dietary habits early in their lives. The 5 a Day – kindergarten concept is to contribute to establishing and influencing good eating habits in children from an early age, and to help even out social differences. The meals served at kindergarten make up a large part of children's daily eating cycle, and the concept is to have an impact on what is actually served by providing inspiration and increased knowledge. The kindergarten is an important arena for stimulating children to learn more about taste, consistency and colours. The OFG is to utilise kindergartens as a channel for influencing attitudes, preferences and habits towards a diet heavy in fruit, berries and vegetables.

The *5 a Day – kindergarten* scheme is free for all kindergartens in Norway.

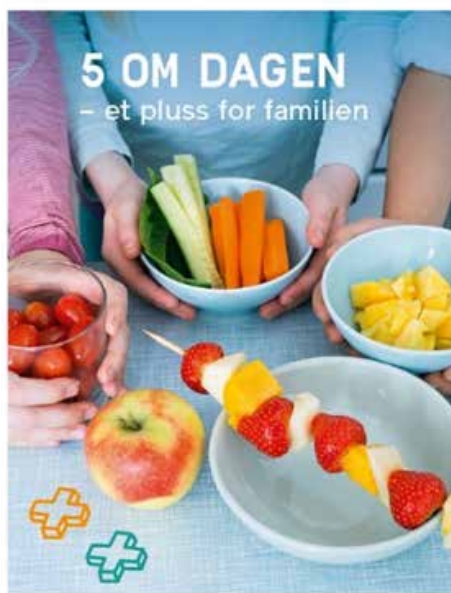
As of May 2020, fully 3.850 kindergartens have signed up for the *5 a Day – kindergarten* scheme. This amounts to 67% of all kindergartens in Norway, encompassing 186.604 children at that time.

In 2018, Norway registered 139 new kindergartens with a total of 7.511 children. The corresponding figures for 2019 were 153 new kindergartens and 9,708 children, and for 2020 they were 154 new kindergartens and 9.868 children.

The objective of the *5 a Day – kindergarten* scheme is to improve the accessibility of fruit, berries and vegetables in kindergartens, and to make fruit, berries and vegetables a natural part of all meals eaten at kindergartens. By taking the conclusions from the mapping survey conducted by the Norwegian Directorate for Health and Social Affairs in 2005 (6) as the starting point, the

principal objectives of the concept were: to increase knowledge and inspiration among staff, to promote learning through play for the children, and to provide information and inspiration to parents.

All kindergartens that register for the scheme receive a free inspiration pack of materials and information.



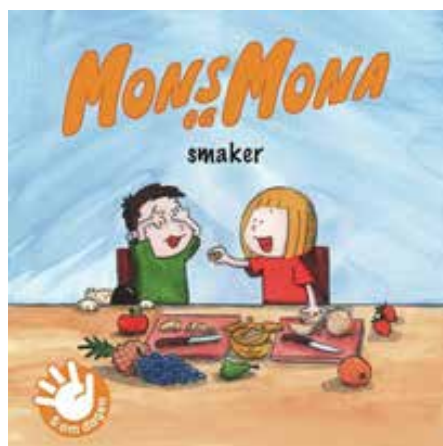
"We recommend the 5 a Day concept for all kindergartens!" (9)

The pack comprises materials both for the kindergarten itself, and for the children who attend it. It is accompanied by a leaflet intended for families – the idea being for the kindergarten to distribute these leaflets to parents.

In developing materials for children in kindergartens, we have taken "learning through play" as our guiding concept.

Working closely with an author and an illustrator, we have come up with the figures Mona, Mons and Boffen. These figures feature consistently in our materials. Mons, Mona and Boffen are drawn in a “match pairs” game together with pictures of different vegetables, fruit and berries.

They are also repeated on posters and in the books entitled “Mons and Mona in the grocery shop”, “Mons and Mona make vegetable soup”, “Mons and Mona hunting for goodies”, “Mons and Mona try tasting” and the Mons and Mona activity book”.



The books are sent to all the children in the kindergarten, who are encouraged to take them home with them. In all, we have printed around 800,000 copies of these books.

In addition to the books, the “match pairs” game and the posters, the inspiration packs contain small children’s aprons, a potato masher, an apple slicer, recipes for soup and mashed potatoes, and the special 5 a Day – kindergarten information leaflet.



5 a Day – kindergarten has its own Facebook page: <https://www.facebook.com/5omdagenbarnehage/>. The concept also has its own pages on our web portal: www.frukt.no/barnehage/ This site publishes articles intended for kindergarten staff, featuring tips and ideas for how they can increase the amount of fruit, berries and vegetables in their kindergartens. All kindergartens that join the 5 a Day – kindergarten scheme are automatically registered in our newsletter database. We regularly send out newsletters containing competitions, information, recipes and news to kindergartens.

KINDERGARTEN STAFF

As meals at kindergartens – and what children actually eat there – are so important, the people who work in kindergartens have a crucial role to play with regard to children's diets.

The attitude of the kindergarten towards food and diet is perhaps the most powerful driver in establishing a healthy diet at the kindergarten, while the knowledge and skills of the staff constitute the second-most powerful driver. (5) Unfortunately, there is little focus on health and diet in the study programme for kindergarten staff. In addition, there are many staff who have not completed a course of higher education. Raising skills has therefore been a key focus area for the OFC. Several times a year, we visit colleges that train and qualify kindergarten staff in order to teach a course in nutrition and practical cooking. We have also developed an e-learning course for staff. The course is free of charge and published on our web portal. It contains a number of articles about diet in kindergartens, the benefits of a "greener" diet, and a range of practical tips and ideas. To date (in 2020), more than 3,000 staff have completed this course (13).

"All staff completed the e-learning course on planning day and found that it provided them with inspiration in their work to help children eat more fruit and vegetables" (9).

"All staff will soon have completed the online e-learning course, and we've really learned a lot"(9).

"Having completed the e-course, from autumn onwards we'll be much more conscious about serving vegetables as well" (9).

During the start-up phase of the concept, there was a clear desire to build a bridge between the kindergarten and the home so as to encompass the children's entire "eating day". The parent group was therefore viewed as a separate target group in the concept. This proved to be difficult to work with, however. Kindergarten staff have a hectic working day, and the few interactions that exist between staff and parents are by necessity brief and devoted to more practical information concerning the actual day at the kindergarten. It became clear that it would be more appropriate to transfer this bridge-building exercise to the health clinics.

All children and parents in Norway are in contact with a health clinic and a clinic nurse on multiple occasions as the child grows and develops, and the OFC chose to focus on the interviews during the 4- and 6-year check-ups. All clinics can request our materials. The materials we supply are the same as we use in

the 5 a Day – kindergarten scheme. At the 4-year check-up, the clinics distribute the Mons and Mona books, and at the 6-year check-up they hand out Mons and Mona activity books. In addition, they always distribute our information leaflet entitled: 5 a Day – a bonus for the family.

In 2019, our materials were distributed to more than 250 health clinics in all parts of Norway.

The first area that 5 a Day – kindergarten looked to tackle during the start-up phase was the question of special days and celebratory events in the kindergartens, where the objective was to change the way these special events were celebrated. A major concept called “Fruit Party” (*Fruktfest*) was developed, featuring all the elements you need to hold a party: downloadable invitations, suggestions for games and activities, and a menu. The objective here was to remove cakes and ice cream from kindergartens. Healthier alternatives were suggested, such as smoothies, fruit salads, fruit kebabs and bowls of chopped vegetables and fruit.

“We’ve started a discussion about how to celebrate birthdays. It’s tough to let go of the traditions we have of letting children choose between ice cream and popcorn. Especially for parents! We’re working on it!” (9).



The concept was positively received and applied by a great many kindergartens all over Norway.

“We’ve also cut out cakes from birthday parties – we serve smoothies instead” (9).

“We’ve now started serving fruit and smoothies instead of cake. A lot of the parents were sceptical at first, but they can now see the benefits – especially for children with different allergies. We can also see that the children love fruit and vegetables and really appreciate the new style. They’re picking up good habits early in their lives”(9).

“Hi – we’ve really gone all in on the 5 a Day – kindergarten project. Instead of ice cream at birthday parties, we’ve started having fruit parties and making smoothies” (9).

It has now become less common for kindergartens to celebrate birthdays and other special events with cake and ice cream.

In a survey conducted by Kantar TNS in November, on commission from the OFG (5), kindergartens were asked what they served at birthday parties. Of the respondents, 56% replied fruit, and 42% replied smoothies; only 13% replied cakes. There were 41% that replied “other”, and it transpired that most of the kindergartens that gave this answer do not focus so heavily on food at birthday parties; they concentrate more on activities and other forms of attention for the birthday boy or girl.

ANOTHER EXAMPLE OF AN ACTIVITY IS THE FROM FIELD TO FORK – CARROT CAMPAIGN

The idea of involving children on the entire journey from field to fork is a great way to promote engagement and interest in the food we eat. It is only natural to be more willing to taste something you have been involved in preparing yourself. Taking this as a starting point, a new type of activity was launched. Kindergartens were offered carrot seeds for growing in their gardens. The activity was marketed through newsletters and advertisements. In 2019, eight hundred packs of seeds were distributed, and in 2020, a thousand packs were sent out to kindergartens, both those that had already registered for the 5 a Day – kindergarten scheme, and new members. The “seed mailshots” were used actively to recruit new kindergartens, and the initiative produced 48 new registrations in 2019 and 66 new registrations in 2020. Together with the packs of seeds, we enclosed an information leaflet that also included a competition. Kindergartens could participate in the competition by sending in photos and

reports from their carrot projects. Fully 125 kindergartens took part in the competition in 2019. A total of 15 kindergartens won a hand blender, while two kindergartens won a giant fruit and vegetable party. The OFC held fruit and vegetable parties at the *Trøste og bære* kindergarten in Oslo, and at *Bygnes vitenbarnehage* in Karmøy in October and November.

“Love this project! So grateful! We’ll be baking carrot bread rolls this autumn” (9).

“So great to see how popular vegetables have become among the children since we started this planting project” (9).

“Thank you so much for all the exciting processes you’ve kick-started at our kindergarten.”

“We’ve planted carrot seeds in boxes and pallet planters (9).

And now we’re looking forward to tasting all those delicious carrots” (9).



From the Kanvas festival

One of the fundamental ideas behind the concept has been constantly to tie in with other initiatives. A key theme in this regard has been to work closely with other players in the area of public health. Early in the project, we established close ties with public health coordinators at municipal and county authorities. These players made an important contribution in communicating information to the municipalities and they took on an active role in recruiting the kindergartens in their own administrative areas to the concept. We use newsletters to keep in touch with the municipal public health coordinators, and we participate in national public health events and conferences. During the start-up phase, we also had Kanvas – one of the biggest kindergarten chains in Norway, with 66 kindergartens in the country – as a partner. We regularly contribute information about diet to Kanvas's own channels, and every year, we attend Kanvas's children's festivals, where we serve fruit and vegetables to the children.

EXAMPLES OF OTHER TYPES OF WORKING RELATIONSHIPS

ØSTFOLD COUNTY COUNCIL

5 a Day – kindergarten has worked closely with the public health coordinator in Østfold County Council. The County of Østfold is experiencing major challenges in the field of public health, and overweight among children is an increasingly serious problem. Østfold County Council wanted to raise competence with regard to diet and health among its kindergarten staff. In 2017, *5 a Day – kindergarten* organised a seminar attended by 110 kindergarten staff. Moreover, the OFG has held a number of soup courses, where staff could take practical lessons in preparing soups for their kindergartens. Irrespective of the size of the kitchen facilities in the kindergarten, everyone can manage to put together soups as hot meals for the children. All the staff who participated in the soup course were given a booklet of recipes and a hand blender to take back to their kindergartens.



HOPP – Helsefremmende Oppvekst (7)

Helsefremmende Oppvekst (Health-promoting development) in the Municipality of Horten (HOPP) (7) is an interdisciplinary municipal working relationship intended to promote a healthy lifestyle among children and young people, to provide improved learning conditions, to increase well-being and to prevent lifestyle illnesses and inactivity. The Municipality of Horten and HOPP base all their dietary initiatives on recommendations from the Norwegian Directorate of Health. Standard diet plans and a common purchasing agreement have been introduced for all kindergartens. The objective of HOPP is to have all kindergartens in the municipality signed up for the *5 a Day - kindergarten* scheme, and they are. The OFG works closely with HOPP in Horten.

THE BRA STUDY

The BRA study is an intervention study, where BRA stands for *Barnehage, gRønnsaker* and *fAmilie* (Kindergarten, Vegetables and Family) (8), which are the cornerstones of the study. The project was carried out by researchers at the University of Oslo (UiO) Department of Nutrition, in partnership with national and international experts in the field. The intention of the study was to improve knowledge about how kindergartens can play a bigger role in the arena of health promotion and illness prevention.

The objective was to develop, execute and evaluate a theory- and knowledge-based intervention to promote the intake of vegetables among kindergarten children (aged 3–5 at the start of the study), through changing food-related practices at home and in kindergartens.

The ambition of the project was to raise the intake of vegetables, increase the amount of vegetables served in each meal, and increase the frequency with which vegetables were offered/served each day. The premise was that the intake of vegetables would be affected by the following factors: the assortment of vegetables offered, accessibility of vegetables at the table, and encouragement to taste/eat vegetables.

Materials from the *5 a Day - kindergarten* scheme were used actively during the study. All the kindergartens that took part received elements of the *5 a Day - kindergarten* material and use of the material was a part of the study.

5 a Day - kindergarten has used the findings from the project to make changes in its own information leaflet. For example, with regard to the themes of how to increase the intake of vegetables in kindergartens, how to be a good role model, and how to encourage children to taste. Pages devoted to the same topics have also been set up on frukt.no

#MERAV – UNIQUE WORKING RELATIONSHIP BETWEEN THE AUTHORITIES AND THE FOOD INDUSTRY

An unhealthy diet is the key risk factor for early death as a result of non-infectious diseases in Norway, and it can lead to illness and reduced quality of life. The Norwegian Directorate of Health has calculated that unhealthy diet and associated complications cost society a total of NOK 154 billion a year.

In 2017, Norway published its national action plan for improved diet (2017–2023) (11). The key concepts in the plan are healthy diet, pleasurable eating and good health for all. The plan was signed by eight ministers in Norway and is closely linked to the UN's Sustainable Development Goals. The objective of the plan is to introduce dietary changes, and it is clearly necessary to ensure that the initiative transcends boundaries between sectors, and to establish working relationships between the public, private and voluntary sectors.

As a part of this work, an “Agreement of intent for a healthier diet” (12) was drawn up with a view to establishing a working relationship between the health authorities and the food industry (12). Focus area 4 in the agreement of centres on the products we should be eating more of, and it is targeted at increasing the population's intake of fruit, berries, vegetables, whole grain products and seafood (12).

Eating more fruit, berries, vegetables, whole grain products and seafood will produce a more sustainable diet that contributes to better health.

The #MerAv (#MoreOf) campaign from the Norwegian Directorate of Health maintains a positive focus on the fact that children actually like fruit, berries, vegetables, whole grain products and seafood. #MerAv has been included in the 5 a Day – kindergarten information leaflet. In addition, articles have been published on the kindergarten pages on frukt.no that describe #MerAv in kindergartens, and a newsletter on this topic has been distributed to our kindergarten base.

CONCLUSION AND FUTURE CHALLENGES

The situation in kindergartens today, i.e. in 2020 vs. 2005, has changed appreciably as regards the emphasis on a healthy diet. Today, it is common for kindergartens to highlight their own efforts in the field of diet and health as a competitive advantage when offering places for local children.

So, if health, food and diet are now being accorded such high emphasis in kindergartens, why are we continuing with the *5 a Day – kindergarten* concept?

In 2016, we commissioned Kantar TNS to conduct a survey on diet in kindergartens, with particular emphasis on fruit and vegetables. The findings revealed that kindergartens which had signed up for the concept were more likely to have a healthy focus on birthday celebrations than kindergartens that had not. Institutions participating in the *5 a Day – kindergarten* scheme were also much more likely to serve home-made than ready-made soup. Generally speaking, great potential still exists to increase the amount of vegetables served in kindergartens.

The attitude of the kindergarten towards food and diet is perhaps the most powerful driver in establishing a healthy diet at the kindergarten, while the knowledge and skills of the staff constitute the second-most powerful driver. Thereafter come: good dialogue between parents and the kindergarten, involving children in the meals, staff cutting up fruit and vegetables for the children, and the options open to staff to spend time preparing meals. Courses held at kindergartens for the staff are viewed as the best way to improve skills.

The survey also revealed that the most important task for the concept would be to maintain constant focus on attitudes towards and knowledge about food and diet. Kindergartens actually serve the most meals during the day and therefore define the food presented to the children. Courses, follow-up and reminders are all success factors. Given that there is high turnover among kindergarten staff, it will be necessary to provide training and information on an ongoing basis.

In addition, the concept of *5 a Day – kindergarten* has achieved established recognition.

For example, the concept is discussed on the website of the Norwegian National Centre for Food, Health and Physical Activity (14).

5 a Day – kindergarten is mentioned in the chapter entitled “Initiatives that contribute to facilitating work with food and meals” in the book *Diet and physical health* by Samira Lekhal, Helena Slapø, Ratib Lekhal and May Britt Drugli. This is a textbook intended for students training to become kindergarten staff and teachers (10).

The concept is also included as a recommendation from the Norwegian Directorate of Health under its guidelines for how kindergarten owners can improve dietary conditions.

SUMMARY

In Norway, 92% of all children aged 1–5 attend kindergartens. The municipalities have local responsibility for both private and public sector kindergartens. National guidelines have been drawn up for food and meals in kindergartens, and these constitute an important tool for the kindergartens in assuring the quality of the food and meals they provide.

There is little focus on health and diet in the study programme for kindergarten staff. Children eat up to three meals a day in kindergartens. The food served, and thus the people who work there, have an important role to play in the children's diet.

5 a Day – kindergarten is a free concept from the Norwegian Fruit and Vegetables Marketing Board (OFG), and it is available to all kindergartens in Norway. All activities in the 5 a Day – kindergarten concept are linked to the dietary advice: 5 a Day. The *5 a Day – kindergarten* concept is to contribute to establishing and influencing good eating habits in children from an early age, and to help even out social differences.

The objective of the *5 a Day – kindergarten* scheme is to improve the accessibility of fruit, berries and vegetables in kindergartens, and to introduce fruit, berries and vegetables as a natural part of all meals eaten in kindergartens.

Fully 67% of kindergartens in Norway have registered for the concept. All kindergartens that register are sent a free inspiration pack containing books, games, posters, a potato masher, an apple slicer, information leaflets and recipes. Learning through play is the fundamental concept behind the materials for children. The objective of the activities intended for kindergarten staff is to enhance knowledge and inspiration.

One of the fundamental ideas behind the concept has been to tie in with other initiatives. A key theme in this regard has been to work closely with other players in the area of public health.

Kindergartens have to focus on numerous different activities and operations. On account of the wide scope of their work and the ongoing turnover in kindergarten staff, it is essential to provide continuous training and information so as to maintain focus on food and meals at the kindergarten. *5 a Day – kindergarten* is an important tool for kindergartens to use in this work.

FOR MORE INFORMATION:

<https://frukt.no/>

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